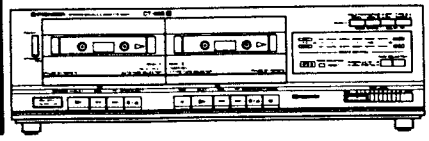
PIONEER®
The future of sound and vision.

Service Manual



STEREO DOUBLE CASSETTE DECK

CT-W300
CT-W300-S

MODELS CT-W300 and CT-W300-S COME IN SIX VERSIONS DISTINGUISHED AS FOLLOWS :

Type	Applicable model		Power requirement	Export destination
	CT-W 300	CT-W 300-S		
KUC	O	–	AC120V only	U. S. A., Canada
HEM	O	O	AC220V, 240V (switchable) *	European continent
HB	O	–	AC220V, 240V (switchable) *	United Kingdom
HP	O	–	AC220V, 240V (switchable) *	Australia
SD	O	–	AC110V, 120V-127, 220, 240V (switchable)	Kingdom of Saudi Arabia and General market

* Change the primary wiring of the power transformer.

- **This service manual is applicable to the CT-W300/KUC, HEM, HB, HP, SD and CT-W300-S/HEM.**
- **As to the CT-W300/HEM type, please refer to page 43.**
- **As to the CT-W300/HP, SD, HB and CT-W300-S/HEM types, please refer to pages 55, 56.**
- **CT-W300-S is the same as the CT-W300 except for the design (color) only.**
- **Ce manuel pour le service comprend les explications en français de réglage.**
- **Este manual de servicio trata del método ajuste escrito en español.**

SJ© APR. 1988 Printed in Japan

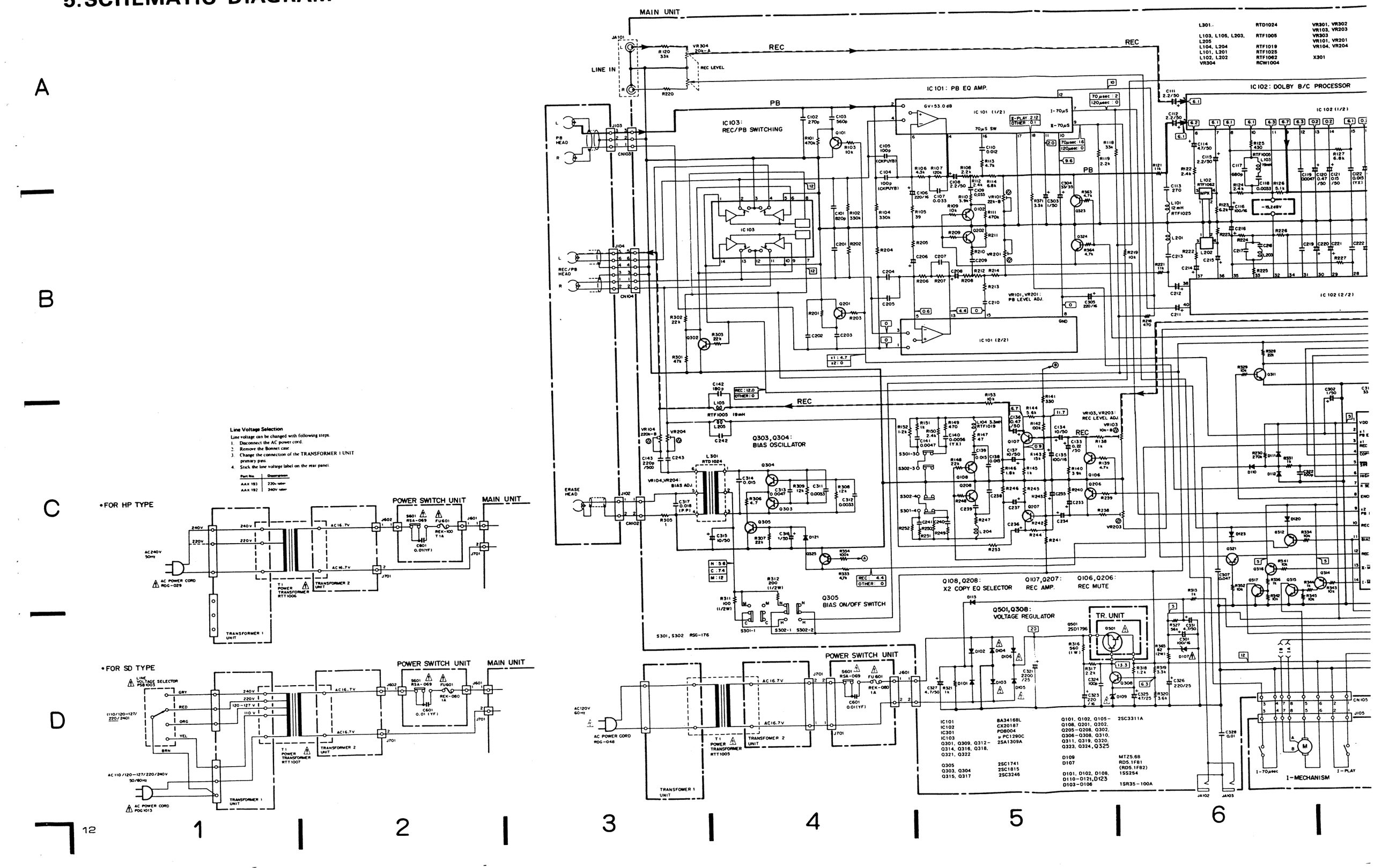
5. SCHEMATIC DIAGRAM

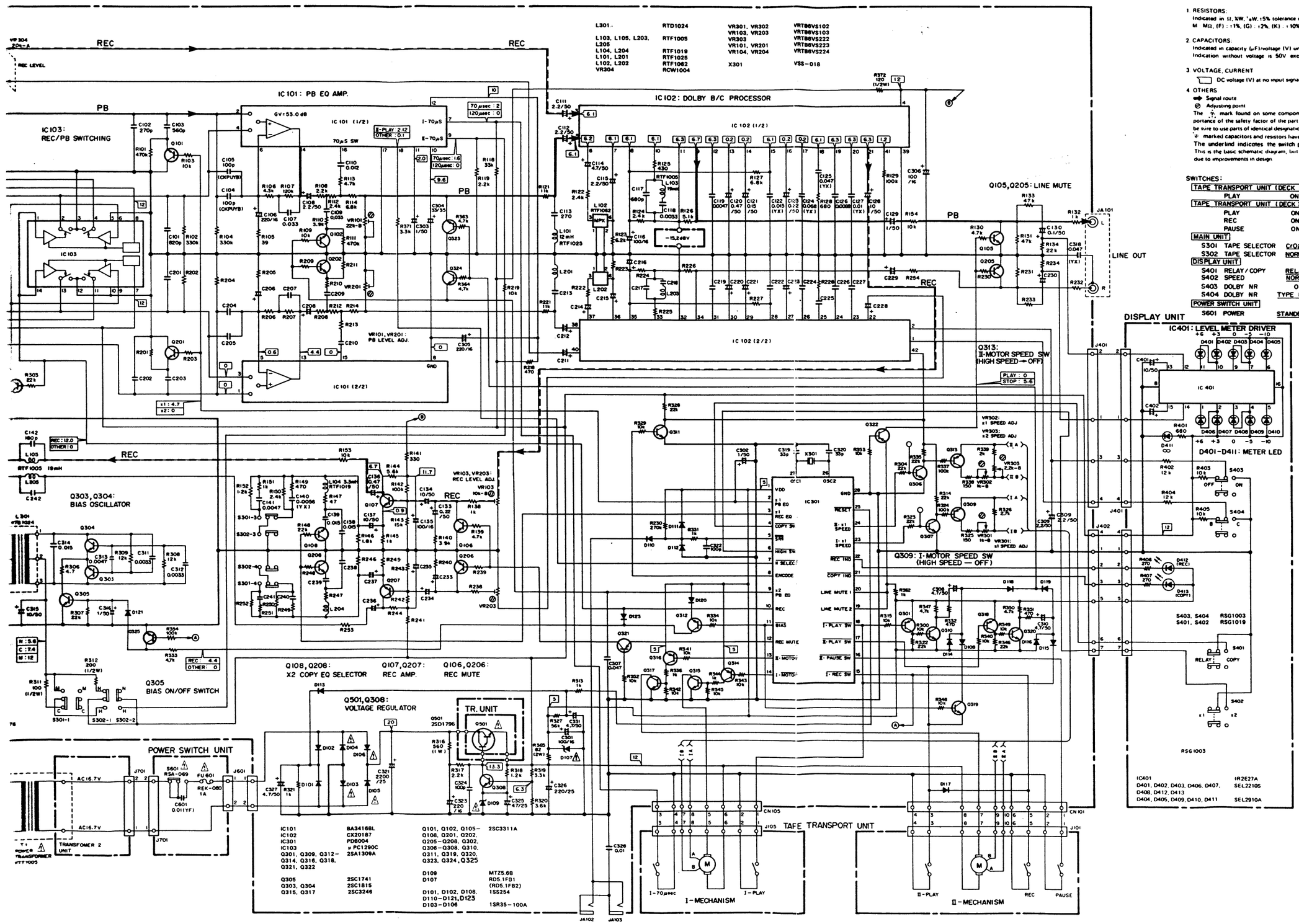
Line Voltage Selection

Line voltage can be changed with following steps.

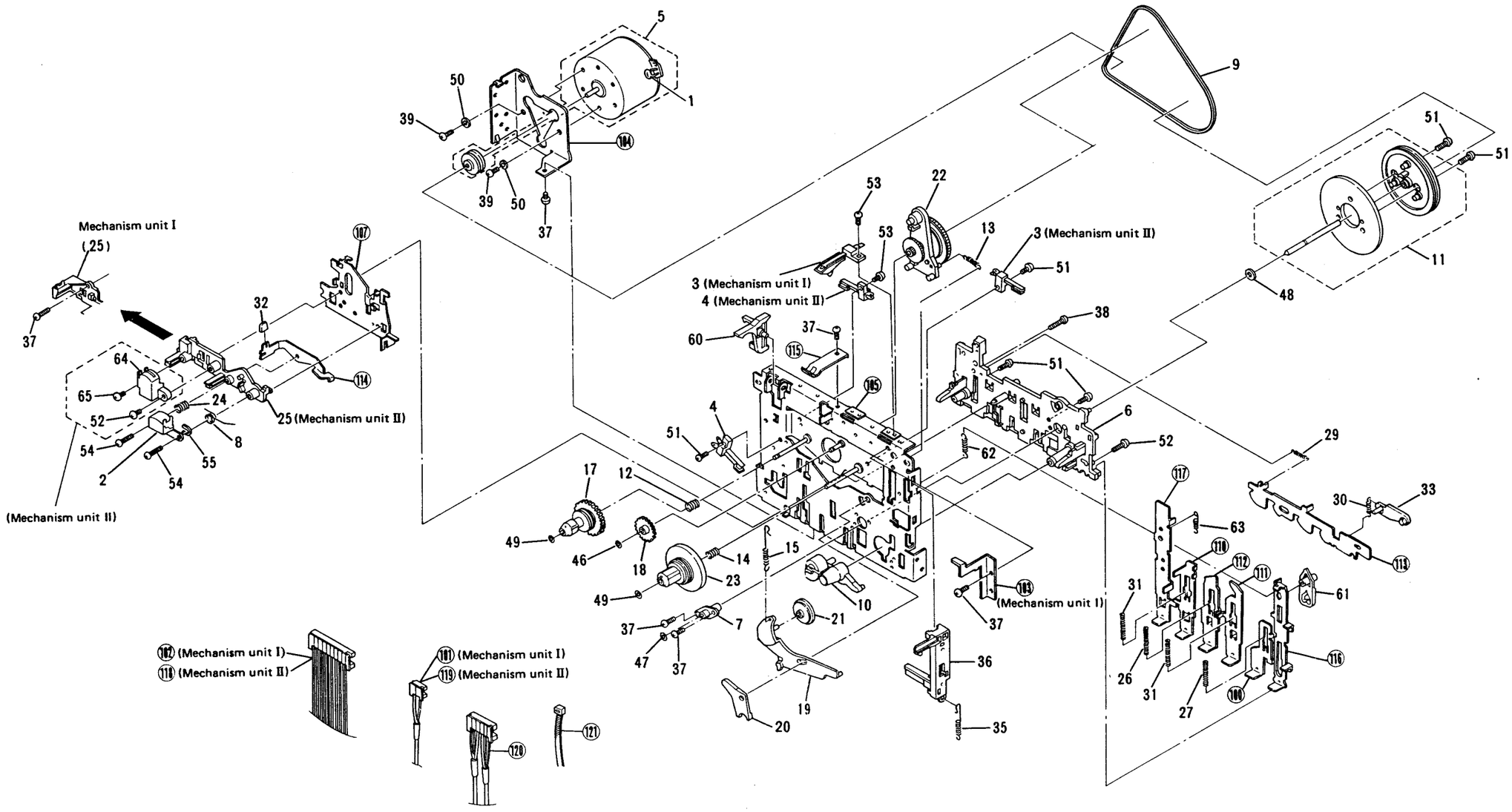
1. Disconnect the AC power cord.
2. Remove the Bonnet case.
3. Change the connection of the TRANSFORMER 1 UNIT primary pass.
4. Stick the line voltage label on the rear panel.

Part No.	Description
AAX 193	220v label
AAX 192	240V label




REC
PB
REC LEVEL
IC101 : PB EQ AMP.
IC103 : REC/PB SWITCHING
IC102 : DOLBY B/C PROCESSOR
Q105,0205 : LINE MUTE
LINE OUT
DISPLAY UNIT
IC401 : LEVEL METER DRIVER
D401-D411 : METER LED
Q303,0304 : BIAS OSCILLATOR
Q305 BIAS ON/OFF SWITCH
Q108,Q208 : X2 COPY EQ SELECTOR
Q107,Q207 : REC AMP.
Q106,Q206 : REC MUTE
Q501,Q308 : VOLTAGE REGULATOR
TR. UNIT
POWER SWITCH UNIT
TAPE TRANSPORT UNIT
I-MECHANISM
II-MECHANISM
Q313 : II-MOTOR SPEED SW (HIGH SPEED → OFF)
Q309 : I-MOTOR SPEED SW (HIGH SPEED — OFF)
VR101, VR201 : PB LEVEL ADJ.
VR103, VR203 : REC LEVEL ADJ.
VR302 : x1 SPEED ADJ
VR303 : x2 SPEED ADJ
VR301 : x1 SPEED ADJ
S403, S404 RSG1003
S401, S402 RSG1019
RSG1003
L301 RTD1024
L103, L105, L203, L205 RTF1005
L104, L204 RTF1019
L101, L201 RTF1025
L102, L202 RTF1062
VR304 RCW1004
VR301, VR302 VRT86VS102
VR103, VR203 VRT86VS103
VR303 VRT86VS222
VR101, VR201 VRT86VS223
VR104, VR204 VRT86VS224
X301 VSS-018
IC101 BA3416BL
IC102 CX20187
IC301 μ PD8004
IC103 μ PC1290C
Q301, Q309, Q312 – Q314, Q316, Q318, Q321, Q322 2SA1309A
Q305 2SC1741
Q303, Q304 2SC1815
Q315, Q317 2SC3246
Q101, Q102, Q105 – Q108, Q201, Q202, Q205 – Q208, Q302, Q306 – Q308, Q310, Q311, Q319, Q320, Q323, Q324, Q325 2SC3311A
D109, D107 MTZ5.6B
D101, D102, D108, D110 – D121, D123 D103 – D106 RD5.1FB1 (RD5.1FB2) 1SS254 1SR35-100A
IC401 D401, D402, D403, D406, D407, D408, D412, D413 D404, D405, D409, D410, D411 IR2E27A SEL2210S SEL2910A
1 RESISTORS: Indicated in Ω, ¼W, ±5% tolerance unless otherwise noted k : kΩ, M : MΩ, (F) : ±1%, (G) : ±2%, (K) : ±10% (M) : ±20% tolerance
2 CAPACITORS: Indicated in capacity (μF)/voltage (V) unless otherwise noted p : pF Indication without voltage is 50V except electrolytic capacitor
3 VOLTAGE, CURRENT DC voltage (V) at no input signal
4 OTHERS: Signal route; Adjusting point
The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation
* marked capacitors and resistors have parts numbers
The underlind indicates the switch position.
This is the basic schematic diagram, but the actual circuit may vary due to improvements in design
SWITCHES:
TAPE TRANSPORT UNIT (DECK I)
PLAY ON – OFF
TAPE TRANSPORT UNIT (DECK II)
PLAY ON – OFF
REC ON – OFF
PAUSE ON – OFF
MAIN UNIT
S301 TAPE SELECTOR CrO2 – METAL
S302 TAPE SELECTOR NORM – HIGH
DISPLAY UNIT
S401 RELAY / COPY RELAY I ◀▶ II – COPY
S402 SPEED NORM – HIGH
S403 DOLBY NR ON – OFF
S404 DOLBY NR TYPE B – TYPE C
POWER SWITCH UNIT
S601 POWER STANDBY – ON

Mechanism unit I, II

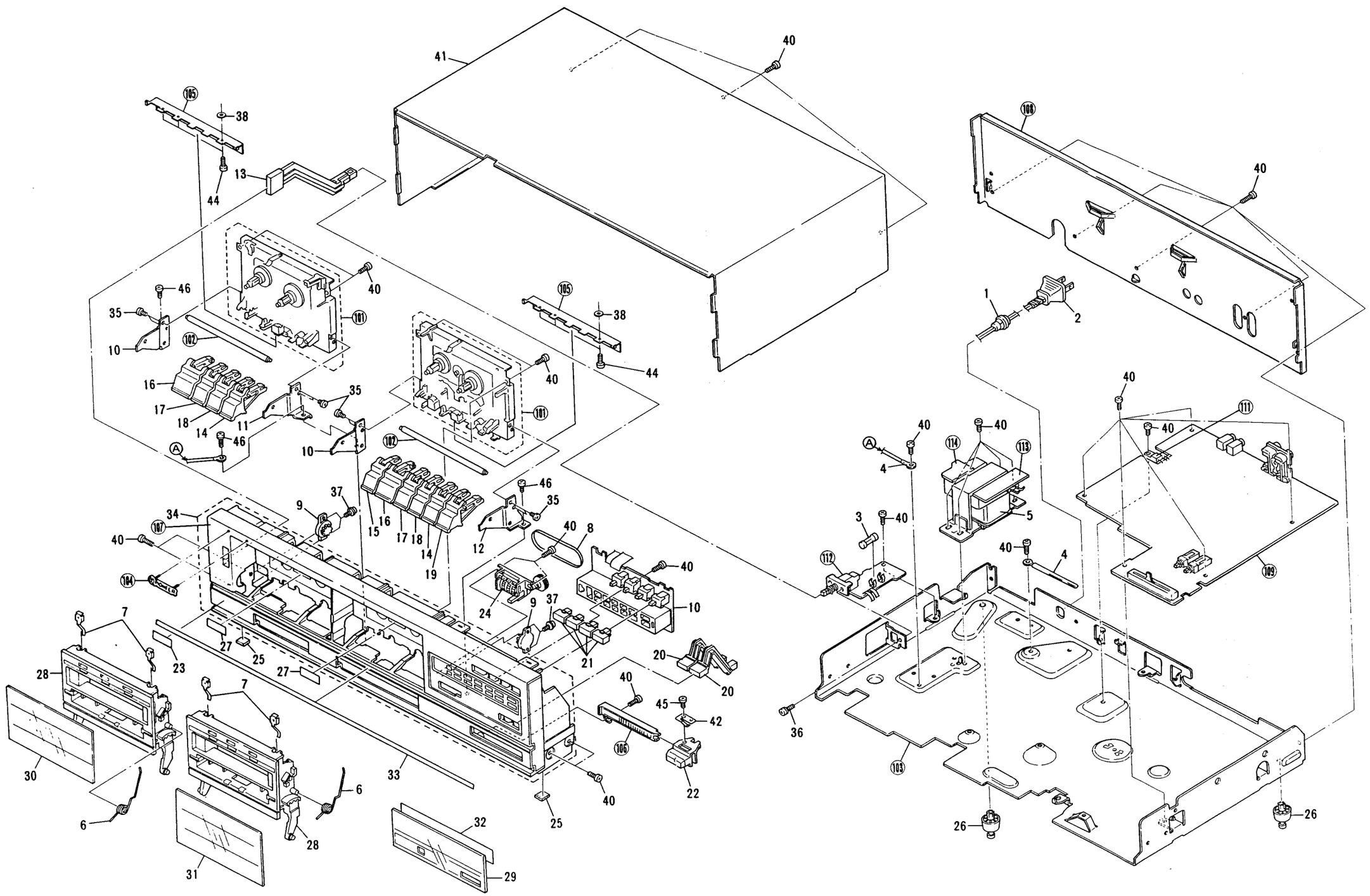


4.2 MECHANISM UNIT

Part List of KUC Type (Mechanism Unit I, II)

Mark	No.	Part No.	Description
	1	CCDSL101J50	Ceramic Capacitor
**	2	RPB1006	RP Head
**	3	RSN1013	Leaf Switch
		(Mechanism Unit I)	
		RSN1015	Leaf Switch
		(Mechanism Unit II)	
**	4	RSN1014	Leaf Switch
**	5	RXM1021	Motor assembly (I)
	6	RNK1353	Lever Base
	7	RXA1201	Housing assembly
	8	RBH1164	P Roller Spring
**	9	REB1062	Drive Belt (A)
	10	RXA1200	P Roller assembly
	11	RXA1202	Flywheel (B) assembly
	12	RBH1170	Back Tension Spring
	13	RBH1171	FR Arm Spring (P)
	14	RBH1173	Back Tension Spring (B)
	15	RBH1176	Idler Spring (A)
	16	.....	.....
	17	RNK1355	S Reel
	18	RNK1356	FF Gear
	19	RNK1371	Idler Arm (P)
	20	RNK1351	Arm Bush
			(Mechanism unitI)
		RNK1372	Arm Bush
			(Mechanism unitII)
	21	RXA1211	Idler assembly
	22	RXA1212	FR Pulley assembly (P)
	23	RXA1213	T Reel assembly (P)
	24	RBH1159	Head Spring
	25	RNK1351	Head Base
			(Mechanism unit I)
		RNK1359	Head Base (B)
			(Mechanism unit II)
	26	RBH1165	Lever Spring
	27	RBH1166	Lever Spring (B)
	28	.....	.....
	29	RBH1169	Lock Cam Spring
	30	RBH1172	Auto Arm Spring
	31	RBH1174	Lever Spring (C)
	32	RNK1350	Sensor Cap
	33	RNK1352	Auto Arm
	34	.....	.....
	35	RBH1168	Eject Lever Spring
	36	RNK1326	Eject Lever (P)
	37	PCZ20P040FMC	Tap Tite Screw
	38	PCZ20P060FMC	Tap Tite Screw
	39	PMZ26P030FMC	Pan Screw
	40	.....	.....
	41	.....	.....
	42	.....	.....
	43	.....	.....
	44	.....	.....
	45	.....	.....
	46	RBF1001	Polyslider Washer
	47	RBF1002	Polyslider Washer
	48	WA21D040D025	Polyslider Washer
	49	RBF-083	Polyslider Washer
	50	RBE1004	Tooted Lock Washer
	51	RBA1011	Tap Tite Screw
	52	RBA1059	Tap Tite Screw
	53	RBA1012	Tap Tite Screw (Mechanism unit I)
	54	RBA1060	Bind Tap Tite Screw
	55	RBE1007	Head Spacer
	56	.....	.....
	57	.....	.....
	58	.....	.....
	59	.....	.....
	60	RNK1360	REC Sensor (Mechanism unit II)
	61	RNK1354	Pause Cam (A) (Mechanism unit II)
	62	RBH1167	Pause Spring (P) (Mechanism unit II)
	63	RBH1175	REC Lever Spring (B) (Mechanism unit II)
**	64	RPB1002	E Head (Mechanism unit II)
	65	PBZ20P080FMC	Tapping Screw
	100		Stop Lever (F)
	101		3P Head Wire assembly (Mechanism unit I)
	102		8P Wire assembly (Mechanism unit I)
	103		SW Guard (Mechanism unit I)
	104		Motor Bracket (P)
	105		Chassis assembly (P)
	106		.....
	107		Head Chassis
	108		.....
	109		.....
	110		Play Lever (F)
	111		FF Lever (F)
	112		REW Lever (F)
	113		Lock Cam
	114		Sensor Lever
	115		Pack Spring
	116		Pause Lever (P) (Mechanism unit II)
	117		REC Lever (F) (Mechanism unit II)
	118		10P Wire assembly (Mechanism unit II)
	119		2P Head Wire assembly (Mechanism unit II)
	120		6P Head Wire assembly (Mechanism unit II)
	121		Binder

Exterior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4. EXPLODED VIEWS AND PARTS LIST

NOTES :
- Parts without part number cannot be supplied.
- The ⚠ mark found on some component parts indicates the impotance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- For your parts Stock Control, the fast moving items are indicated with the marks ★★ and ★.
  ★★ GENERALLY MOVES FASTER THAN ★.
  This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.
- Parts marked by "⊙" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

4.1 EXTERIOR
Parts List of Exploded View (Exterior Components)

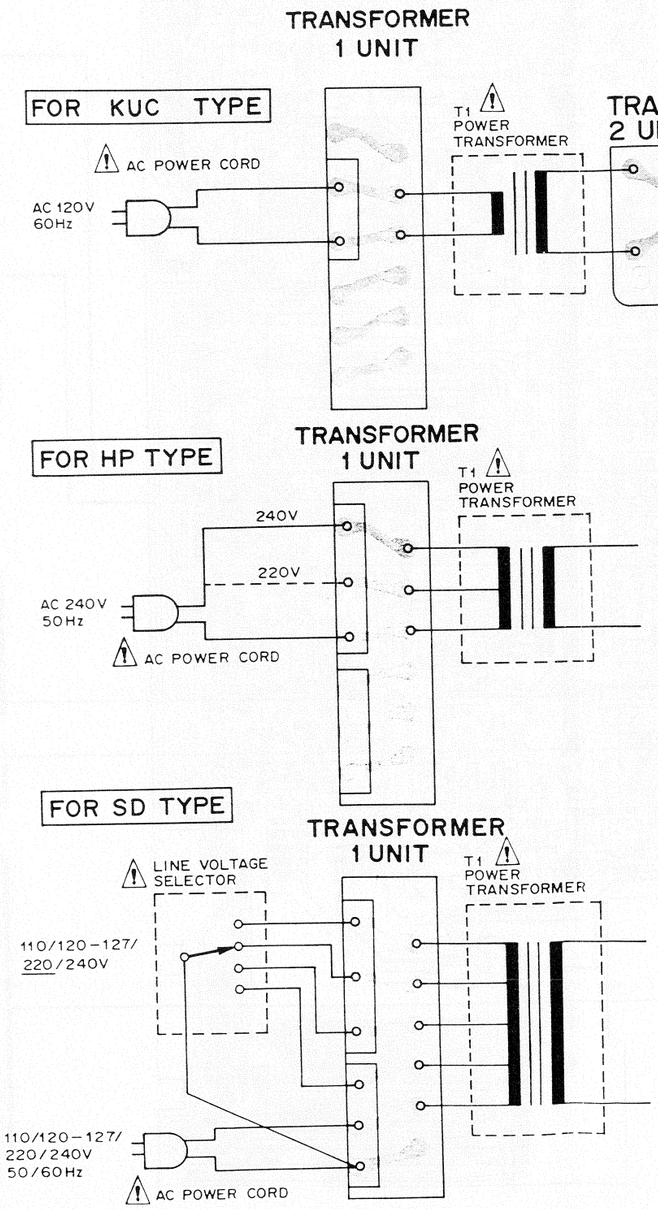
Mark	No.	Part No.	Description
⚠	1	CM−22	Strain relief
⚠	2	RDG−048	AC power cord
⚠★★	3	REK−080	Fuse (FU1 20mm)
	4	RNH−184	Cord clamper
⚠ ★	5	RTT1005	Power transformer (T1)
	6	RBH1077	Door spring
	7	RBK1004	Half pressure spring
★★	8	REB−514	Counter belt
	9	REC−436	Door damper
	10	RNE1195	Operation bracket (L)
	11	RNE1205	Operation bracket (R2)
	12	RNE1196	Operation bracket (R)
	13	RAC1068	Knob (POWER)
	14	RAC1264	Button (STOP)
	15	RAC1265	Button (REC)
	16	RAC1269	Button (PLAY)
	17	RAC1266	Button (REW)
	18	RAC1267	Button (FF)
	19	RAC1268	Button (PAUSE)
	20	RAC1075	Knob (TAPE)
	21	RAC1076	Knob (MODE/DOLBY/ SPEED)
	22	RAC1080	Knob (REC LEVEL)
	23	RAH1295	Badge (S)
	24	RAW1003	Counter
	25	REB1004	Stopper
	26	REC−369	Leg assembly
	27	REE−113	Remain display paper
	28	RNK1058	Door pocket
	29	RAH1286	Display panel
	30	RAH1287	Door panel (L)
	31	RAH1288	Door panel (R)
	32	RAH1289	Meter panel
	33	RAH1290	Function panel
	34	RXX1084	Front panel assembly
	35	BBZ20P040FMC	Screw
	36	PMA30P060FMC	Screw 3×6
	37	ABZ30P080FMC	Screw 3×8
	38	RBF1023	Washer
	39	.....	.....
	40	BBZ30P080FMC	Screw 3×8
	41	RNA1031	Bonnet
	42	RBK1015	Spring
	43	.....	.....
	44	BBZ20P050FMC	Screw
	45	BBZ20P080FMC	Screw
	46	BBZ30P060FZK	Screw
	101		Mechanism unit
	102		Knob shaft
	103		Main chassis
	104		Name Plate
	105		Mechanism bracket
	106		VR knob guide
	107		Front panel
	108		Rear panel
	109		Main unit
	110		Display unit
	111		Transistor unit
	112		Power switch unit
	113		Transformer 1 unit
	114		Transformer 2 unit

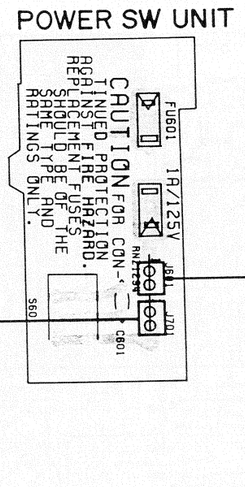
6. P.C.BOARDS CONNECTION DIAGRAM

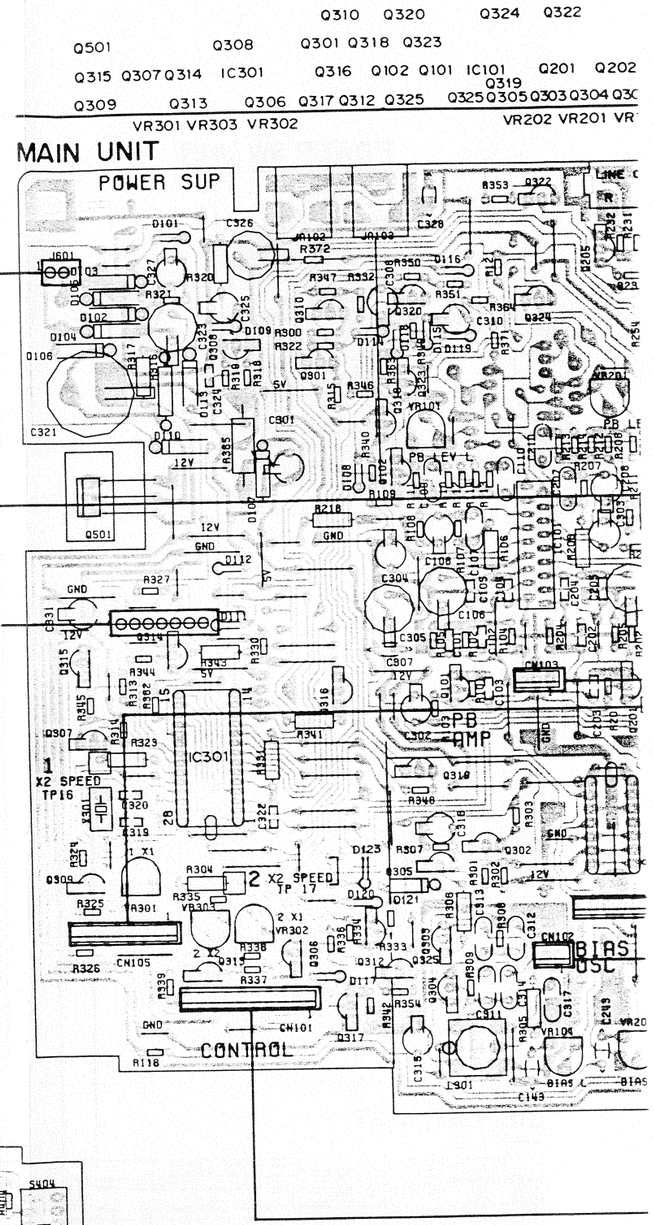
- View from component side

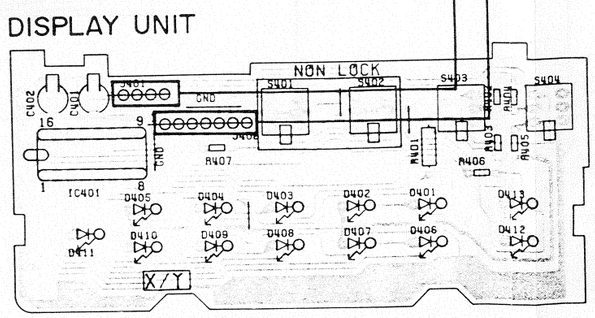
P.C.B. pattern diagram indication	Corresponding part symbol	Part name
		Transistor
		FET
		Diode
		Zenner diode
		LED
		Varactor
		Tact switch
		Inductor
		Coil
		Transformer
		Filter
		Ceramic capacitor
		Mylar capacitor
		Styrol capacitor
		Electrolytic capacitor (Non polarized)
		Electrolytic capacitor (Noiseless)
		Electrolytic capacitor (Polarized)
		Electrolytic capacitor (Polarized)
		Power capacitor
		Semi-fixed resistor
		Resistor array
		Resistor
		Resonator

1. This P.C.B. connection diagram is viewed from the parts mounted side.
2. The parts which have been mounted on the board can be replaced with those shown with the corresponding wiring symbols listed in the above Table.
3. The capacitor terminal marked with ▭ shows negative terminal.
4. The diode marked with ○ shows cathode side.
5. The transistor terminal marked with ▭ shows emitter.



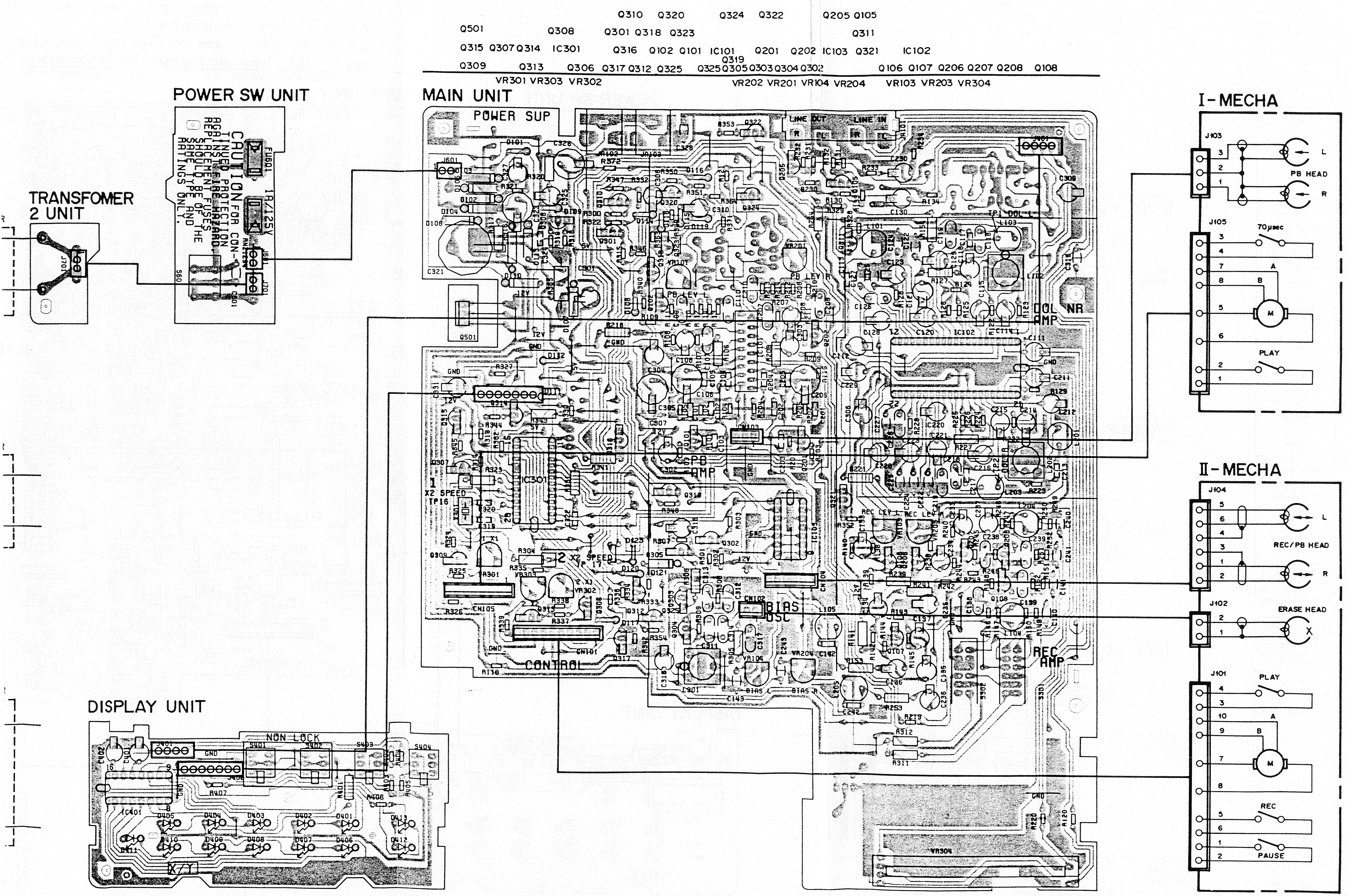

POWER SW UNIT
CAUTION FOR CONTINUED PROTECTION AGAINST FIRE HAZARD. REPLACEMENT FUSES SHOULD BE OF THE SAME TYPE AND RATINGS ONLY.
FU601
1A/125V
CB01





4 5 6 7 8 9

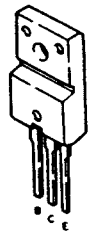
A B C D


Q501 Q308
Q315 Q307 Q314 IC301
Q309 Q313 Q306 Q317 Q312 Q325
Q310 Q320 Q324 Q322 Q205 Q105
Q301 Q318 Q323 Q311
Q316 Q102 Q101 IC101 Q201 Q202 IC103 Q321 IC102
Q319
Q325 Q305 Q303 Q304 Q302 Q106 Q107 Q206 Q207 Q208 Q108
VR301 VR303 VR302
VR202 VR201 VR104 VR204 VR103 VR203 VR304
POWER SW UNIT
CAUTION FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACEMENT FUSES SHOULD BE OF THE SAME TYPE AND RATINGS ONLY.
FU601 1A/125V
TRANSFOMER 2 UNIT
MAIN UNIT
POWER SUP
LINE OUT
LINE IN
PB LEV R
PB LEV L
DOL NR AMP
PB AMP
X2 SPEED TP16
X2 SPEED TP 17
BIAS OSC
REC LEV L
REC LEV R
REC AMP
CONTROL
BIAS L
BIAS R
DISPLAY UNIT
NON LOCK
I-MECHA
J103
PB HEAD
L
R
J105
70μsec
A
B
M
PLAY
II-MECHA
J104
REC/PB HEAD
J102
ERASE HEAD
J101
PLAY
REC
PAUSE

4 5 6 7 8 9

External Appearance of Transistors and ICs

2SD1796



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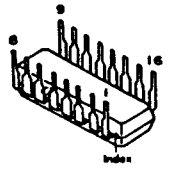

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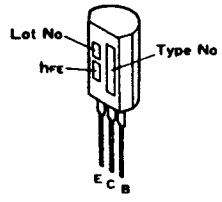

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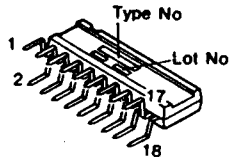

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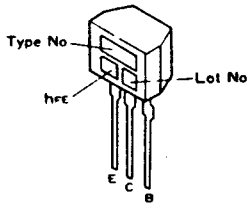

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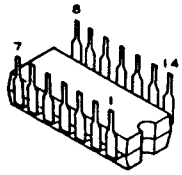

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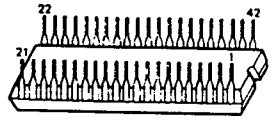
2SA1309A

CX20187



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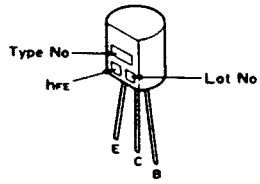

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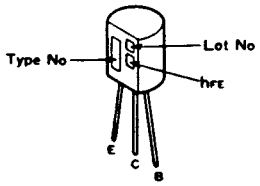

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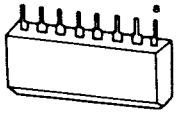
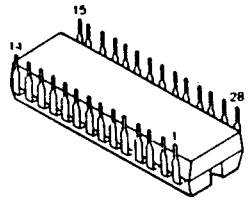


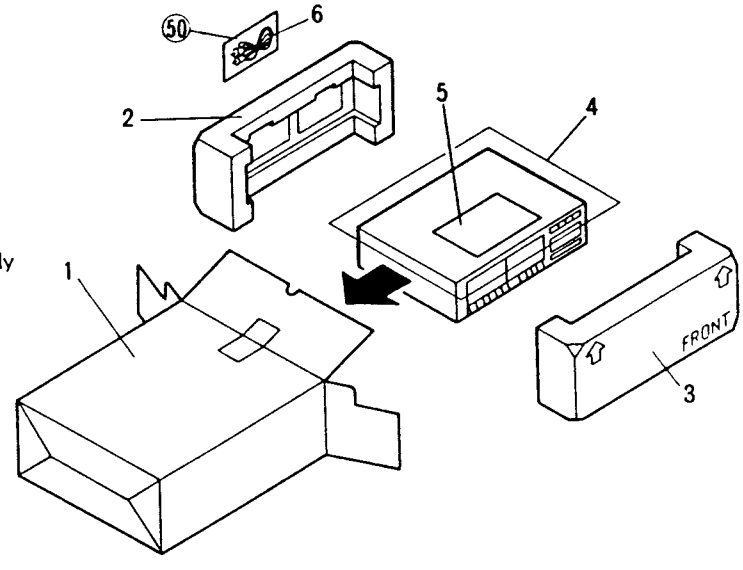
PDB004



7. PACKING

Parts rist

Mark	No.	Part No.	Description
	1	RHG1070	Packing case
	2	RHA1006	Pad (A)
	3	RHA1007	Pad (B)
	4	RHC−161	Styrene resin sheet
	5	RRB1025	Operating instructions (English)
	6	RDE−010	Connection cord
	50		Connection cord assembly



8. ELECTRICAL PARTS LIST OF CT-W300/KUC type

NOTES :

- Parts without part number cannot be supplied.
- Parts marked by "⊙" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.
- The ⚠ mark found on some component parts indicates the impotance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- For your parts Stock Control, the fast moving items are indicated with the marks ★★ and ★.
  ★★ GENERALLY MOVES FASTER THAN ★.
  This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.
- When ordering resistors, first convert resistance values into code form as shown in the following examples.
  Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%).
  560 Ω 56×10¹ 561 ····· RD1/4PS 5 6 1 J
  47k Ω 47×10³ 473 ····· RD1/4PS 4 7 3 J
  0.5 Ω 0R5 ····· RN2H 0 R 5 K
  1 Ω 010 ····· RS1P 0 1 0 K
  Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).
  5.62k Ω 562×10¹ 5621 ····· RN1/4SR 5 6 2 1 F

Miscellaneous Parts

P. C. BOARD ASSEMBLY

Mark	Symbol & Description	Part No.
	Main unit	
	Display unit	
	Transistor unit	
	Power switch unit	
	Transformer 1 unit	
	Transformer 2 unit	

OTHERS

Mark	Symbol & Description	Part No.
⚠ ★	T1 Power transformer (120V)	RTT1005
⚠★★	FU1 Fuse (T1A/125V)	REK-080
⚠	AC Power cord	RDG-048
⚠	Strain relief	CM-22

Main Unit

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
★★	IC101	BA3416BL
★★	IC102	CX20187
★★	IC301	PDB004
★★	IC103	μ PC1290C
★★	Q301, Q309, Q312-Q314, Q316, Q318, Q321, Q322	2SA1309A
★★	Q305	2SC1741
★★	Q303, Q304	2SC1815
★★	Q315, Q317	2SC3246
★★	Q101, Q102, Q105-Q108, Q201, Q202, Q205-Q208, Q302, Q306-Q308, Q310, Q311, Q319, Q320, Q323-Q325	2SC3311A
⚠ ★	D109	MTZ5.6B
⚠ ★	D107	RD5.1FB1 (RD5.1FB2)
★	D101, D102, D108, D110-D121, D123	1SS254
⚠ ★	D103-D106	1SR35-100A

SWITCHES

Mark	Symbol & Description	Part No.
★★	S301, S302 Push switch (TAPE SELECTOR)	RSG-176

COILS AND FILTERS

Mark	Symbol & Description	Part No.
	L301 Oscillator coil	RTD1024
	L103, L105, L203, L205 Coil (19mH)	RTF1005
	L104, L204 Coil (3.3mH)	RTF1019
	L101, L201 Coil (12mH)	RTF1025
	L102, L202 MPX filter	RTF1062

CAPACITORS

Mark	Symbol & Description	Part No.
	C143, C243	CCCSL221K500
	C319, C320	CCPUSL330J50
	C130, C230	CEASR10M50
	C121, C221	CEASR15M50
	C123, C133, C223, C233	CEASR22M50
	C120, C136, C220, C236	CEASR47M50
	C129, C229, C302, C303, C316	CEAS010M50
	C128, C134, C137, C228, C234, C237, C315	CEAS100M50
	C116, C135, C216, C235, C301, C306	CEAS101M16
	C108, C111, C112, C115, C208, C211, C212, C215, C309	CEAS2R2M50
	C106, C206, C305, C323, C326	CEAS221M16
	C321	CEAS222M25
	C304	CEAS330M35
	C114, C214, C308, C310, C327, C331	CEAS4R7M50
	C325	CEAS470M25
	C110, C210	CFTXA123J50
	C138, C139, C238, C239, C314	CFTXA153J50
	C118, C218, C311, C312	CFTXA332J50
	C107, C109, C207, C209	CFTXA333J50
	C119, C141, C219, C241, C313	CFTXA472J50
	C126, C226	CFTXA682J50
	C127, C227	CGCYX103K25
	C122, C222	CGCYX153K25
	C125, C225, C307, C318	CGCYX473K25
	C140, C240	CGCYX562K25
	C124, C224	CGCYX683K25
	C328	CKCYF103Z50
	C104, C105, C204, C205, C322, C324	CKPUYB101K50
	C142, C242	CKPUYB181K50
	C102, C113, C202, C213	CKPUYB271K50
	C103, C203	CKPUYB561K50
	C117, C217	CKPUYB681K50
	C101, C201	CKPUYB821K50
	C317	CQPA183J100

RESISTORS

Mark	Symbol & Description	Part No.
★	VR304 Variable Resistor (20k-A) (REC LEVEL)	RCW1004
★	VR301, VR302 Semi-fixed (×1 MOTOR)	VRTB6VS102
★	VR103, VR203 Semi-fixed (REC LEVEL)	VRTB6VS103
★	VR303 Semi-fixed (×2 MOTOR)	VRTB6VS222
★	VR101, VR201 Semi-fixed (PB LEVEL)	VRTB6VS223
★	VR104, VR204 Semi-fixed (REC BIAS)	VRTB6VS224
	R316	RS1LF561J
	R365	RS2LFM820J
	R311, R312 , R372	RD½PMF□□□J
	R304, R323	RD¼LF223J
	R106, R127, R141, R153, R154, R206, R218, R221, R227, R239, R241, R253, R254, R305, R306, R317, R320, R331, R337, R341, R343	RD¼PM□□□J
	Other resistors	RD⅙PM□□□J

OTHERS

Mark	Symbol & Description	Part No.
	X301 Ceramic resonator (4MHz)	VSS-018
	JA101 Pin jack 4P (LINE IN/OUT)	RKB1001
	JA102, JA103 Mini jack 3.5 ϕ (CONTROL IN/OUT)	RKN-071

Display Unit

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
★★	IC401	IR2E27A
★	D401-D403, D406-D408, D412, D413	SEL2210S
★	D404, D405, D409-D411	SEL2910A-X (SEL2910A-Y)

SWITCHES

Mark	Symbol & Description	Part No
★★	S403, S404 Push switch (DOLBY NR ON/OFF, B/C)	RSG1003
★★	S401, S402 Push switch (MODE, SPEED)	RSG1019

CAPACITORS

Mark	Symbol & Description	Part No.
	C401, C402	CEAS100M50

RESISTORS

Mark	Symbol & Description	Part No.
	R401	RD¼PM□□□J
	Other resistors	RD⅙PM□□□J

Transistor Unit

SEMICONDUCTOR

Mark	Symbol & Description	Part No.
⚠★★	Q501	2SD1796

Power Switch Unit

SWITCH

Mark	Symbol & Description	Part No.
⚠★★	S601 Push switch (POWER)	RSA−069

CAPACITORS

Mark	Symbol & Description	Part No.
	C601	CKCYF103Z50

Transformer 1 unit

There is no supply part in this unit.

Transformer 2 unit

There is no supply part in this unit.

9. ADJUSTMENTS

9.1. MECHANICAL ADJUSTMENT

Door Damping Check and Adjustment

Set the door spring of DECK 1 side to position (A) as shown in Fig. 9-2. Then, erect the front panel assembly vertically as shown in Fig. 9-1. Open the doors of DECK 1 and DECK 2 at the same time. At this point, confirm that the difference between opening degree of both doors is within 15mm when one side of the door is opened completely. When this standard is not satisfied, change the door spring installation position of Deck 1 and perform the adjustment as follows:

- When the opening action of the door of DECK 1 is later than that of DECK 2: Change the door spring of DECK 2 from A to B.
- When the opening action of the door of DECK 1 is faster than that of DECK 2: Change the door spring of DECK 1 from A to B.

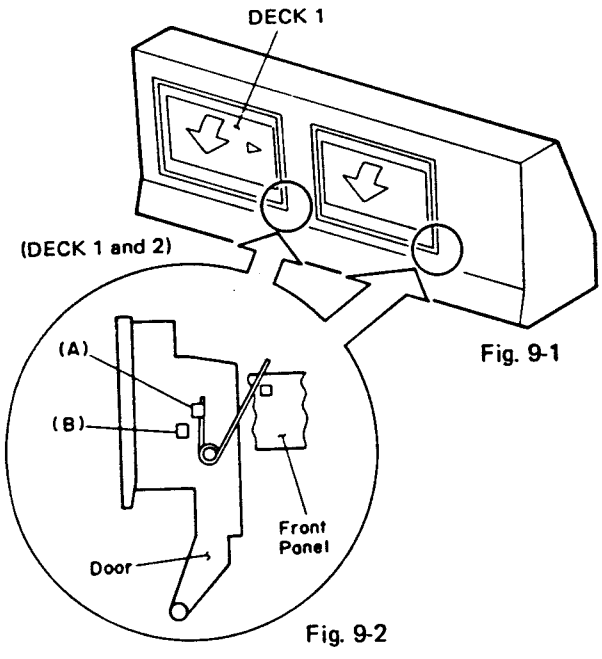


Fig. 9-1

Fig. 9-2

Tape Speed Adjustment for KUC, HP and SD types

1. Load the STD-301 test tape into DECKs 1 and 2.
2. Short-circuit between TP16 to GND, and then Put DECK 1 into (double-speed) PLAY state, and confirm that the frequency becomes 6000Hz±600Hz.Then release the short-circuit.
3. Short-circuit between TP17 and GND, and put DECK 2 into (double-speed) PLAY state, and adjust with VR303 so that the frequency becomes ±10Hz against that of DECK 1.
4. After releasing the short circuit mentioned in step 3, put DECK 1 into normal speed PLAY state, and adjust with VR301 so that the frequency of it becomes 3000Hz±5Hz.
5. Stop the DECK 1 operation and put DECK 2 into normal speed PLAY state, and adjust with VR302 so that the frequency becomes ±5Hz against that of DECK 1.

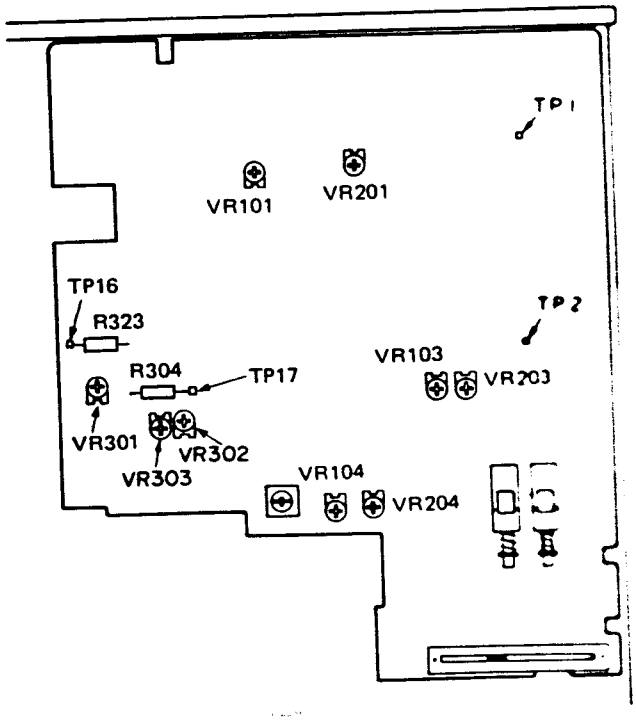


Fig. 9-3 Tape speed adjustment (KUC, HP and SD types)

Tape Speed Adjustment for HEM and HB types

1. Load the STD-301 test tape into DECKs 1 and 2.
2. Short-circuit both pins of R333 (22 kΩ), and then Put DECK 1 into (double-speed) PLAY state, and confirm that the frequency becomes 6000Hz±600Hz.
3. Stop the DECK 1 operation and put DECK 2 into (double-speed) PLAY state, and adjust with VR303 so that the frequency becomes ±10Hz against that of DECK 1.
4. After releasing the short circuit mentioned in step 2, put DECK 1 into normal speed PLAY state, and adjust with VR301 so that the frequency of it becomes 3000Hz±5Hz.
5. Stop the DECK 1 operation and put DECK 2 into normal speed PLAY state, and adjust with VR302 so that the frequency becomes ±5Hz against that of DECK 1.

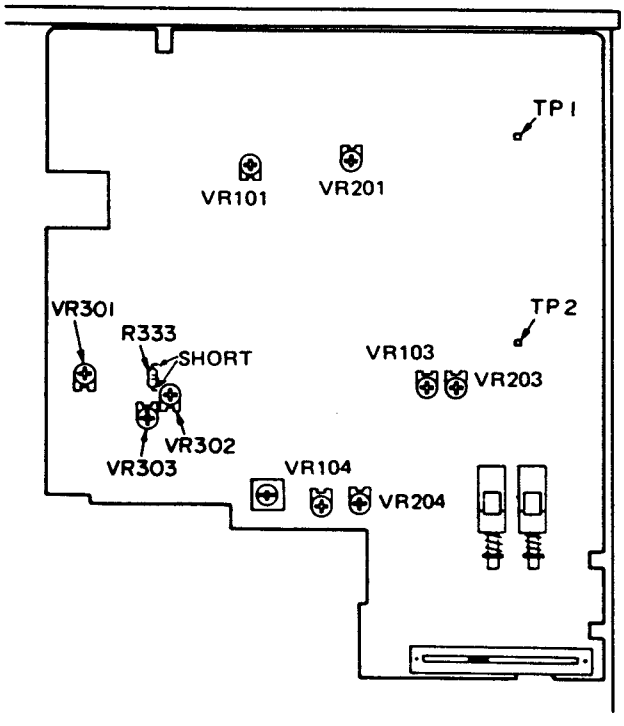
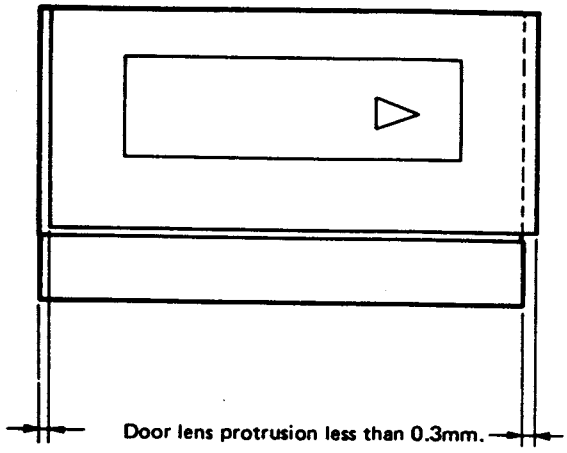


Fig. 9-4 Tape speed adjustment (HEM and HB types)

9.2 DOOR PANEL POSITION CHECK



Gap between door panel and door pocket less than 0.3mm.

Fig. 9-5

ELECTRICAL ADJUSTMENT

Adjustment Conditions

1. The mechanical adjustments must be completed first.
2. The head must be cleaned and damagnetized.
3. Turn power on allow the deck to warm up for at least a few minutes before commencing any electrical adjustments.
4. The reference signal is 0 dBv = 1 Vrms.
5. Connect a 50 kilo-ohm (or between 47 to 52 kilo-ohm) load resistance to the OUTPUT terminals.
6. Unless otherwise specified, the switches listed below are left in the positions indicated.
   DOLBY NR :OFF
   TAPE SELECTOR :NORM

Test Tapes

STD-331B	:Playback adjustments (See Fig. 9-6)
STD-608A	:NORMAL blank tape
STD-620	:CrO_2 blank tape
STD-610	:METAL blank tape

List of Adjustments

Playback sections

1. Head azimuth adjustment.
2. Playback frequency response check.
3. Playback level adjustment.
4. Playback level check.
5. Playback time constant switching check.

Recording sections

1. Recording bias adjustment.
2. Recording level adjustment.
3. Recording and playback frequency response check.
4. Copy mode playback frequency response check.
5. Level meter check

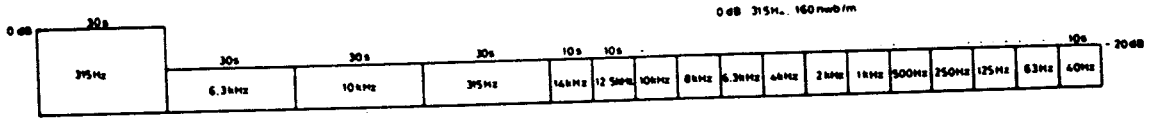


Fig. 9-6 Contents of the test tape STD-331B

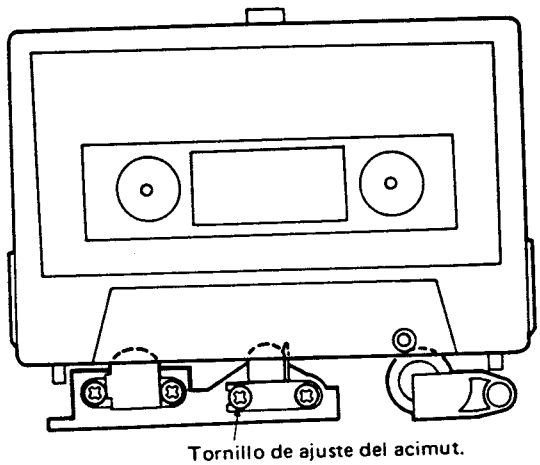


Fig. 9-7 Head azimuth adjustment

Test tape	STD-331B
Tape selector	NORM
DOLBY NR switch	OFF

• Due to "edge effect", compensate the right changed by −1dB at 63Hz.

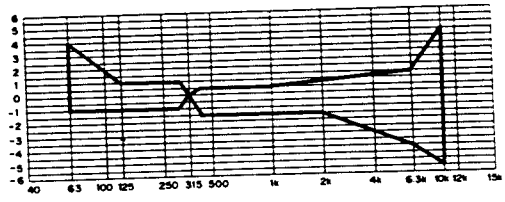


Fig. 9-8 Allowable playback frequency response zone

PLAYBACK SECTION

1. Head Azimuth Adjustment

• Turn VR101 (Deck I) or VR201 (Deck II) to mechanical center positions.

NO	Mode	Input signal & test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1	PLAY	Play the 10kHz/−20dB section of STD-331B test tape.	Head azimuth adjustment screw. (See Fig. 9-7)	LINE OUT	Maximum playback signal level	
2.	STOP	Lock the screw with screw lock after completing adjustment.				

2. Playback Frequency Response Check

NO	Mode	Input signal & test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1.	PLAY	STD-331B	—	LINE OUT	The allowable zone shown in Fig. 9-8 is to be satisfied.	

3. Playback level Adjustment

• This adjustment determines the DOLBY NR level, and must be performed with great care.

No	Mode	Input signal & test tape	Adjustment location		Measuring location	Adjustment value	Remarks
1.	PLAY Deck II	Play the 315Hz/0dB section of the STD-331B test tape.	Deck II	VR 101 (Lch) VR 201 (Rch)	TP. 1 (Lch) TP. 2 (Rch)	−15.2 dBv	

4. Playback Level Check

• This adjustment determines the DOLBY NR level, and must be performed with great care.

No	Mode	Input signal & test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1.	PLAY Deck I	Play the 315Hz/0dB section of the STD-331B test tape.	—	TP. 1 (Lch) TP. 2 (Rch)	−15.2±2.5 dBv	

5. Playback Time Constant Switching Check

• Put the deck into playback mode with no cassetteloaded.

• Check that the noise level changes at the line playback output terminals when the TAPE SELECTOR switch is changed.

RECORDING SECTION

1. Recording Bias Adjustment

• After the adjustment, caution should be exercised so as not to become under bias by checking the distortion rate.

NO	Mode	Input signal & test tape	Adjustment location		Measuring location	Adjustment value	Remarks
1.	STOP	Set the TAPE SELECTOR switch to the NORM position.					
2.	REC	STD-608A (NORM) −20dB	Deck II	VR 104 (Lch) VR 204 (Rch)	LINE OUT	1.0 dB ± 0.5 dB (6.3kHz/315Hz)	

2. Recording Level Adjustment

NO	Mode	Input signal & test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1.	STOP	Set the TAPE SELECTOR switch to the NORM position.				
2.	REC PAUSE	Apply a 315 Hz/0 dBv signal to the Line Input terminals.	Rec Level control	TP. 1 (Lch) TP. 2 (Rch)	−15.2 dBv	
3.		Set the DOLBY NR switch to the ON position. (DOLBY B)				
4.	REC/ PLAY	Record the above signal onto the STD-608A test tape, and playback.	Deck II VR 103 (Lch) VR 203 (Rch)	TP. 1 (Lch) TP. 2 (Rch)	−15.2 dBv	
5.	STOP	Set the TAPE SELECTOR switch to the CrO_2 position.				
6.	REC/ PLAY	Record the above signal onto the STD-620 test tape, and playback.	Confirm	TP. 1 (Lch) TP. 2 (Rch)	−15.2 dBv ± 1.5 dB	
7.	STOP	Set the TAPE SELECTOR switch to the METAL position.				
8.	REC/ PLAY	Record the above signal onto the STD-610 test tape, and playback.	Check	TP. 1 (Lch) TP. 2 (Rch)	−15.2 dBv ± 1.5 dB	

3. Recording and Playback Frequency Response Check

NO	Mode	Input signal & test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1.	STOP	Set the TAPE SELECTOR switch to the NORM position.				
2.	REC/ PLAY	STD-608A (NORM) NR:OFF/ON (TYPE B, C)	Check	LINE OUT	The allowable zone shown in Fig. 9-9 is to the satisfied.	
3.	STOP	Set the TAPE SELECTOR switch to the CrO2 position.				
4.	REC/ PLAY	STD-620(CrO_2) NR:OFF/ON (TYPE B, C)	Check	LINE OUT	The allowable zone shown in Fig. 9-9 is to be satisfied.	
5.	STOP	Set the TAPE SELECTOR switch to the METAL position.				
6.	REC/ PLAY	STD-610(METAL) NR:OFF/ON(TYPE B, C)	Check	LINE OUT	The allowable zone shown in Fig. 9-9 is to be satisfied.	

4. Copy Mode Playback Frequency Response Check

- DOLBY NR OFF.
- Playback after making copy should be carried out by on the REC/PB side.

NO	Mode	Input signal & test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1.	STOP	Set the TAPE SELECTOR switch to the NORM position.				
2.	COPY & HIGH SPEED	Load the STD-331B test tape into deck I, and the STD-608A test tape into deck II.	—	—	Copy recorded signal from STD-331B (at both normal and double speeds.)	
3.	PLAY (Deck II)	Play the signal recorded on the STD-608A test tape in the previous adjustment procedure.	Check	LINE OUT	The allowable zone shown in Fig. 9-10 is to be satisfied.	
4.	STOP	Set the TAPE SELECTOR switch to the CrO2 position.				
5.	Load the STD-620 test tape into deck II, and repeat steps 2 and 3 to check that the allowable zone shown in Fig. 9-10 is satisfied.					
6.	STOP	Set the TAPE SELECTOR switch to the METAL position.				
7.	Load the STD-610 test tape into deck II, and repeat steps 2 and 3 to check that the allowable zone shown in Fig. 9-10 is satisfied.					

5. Level Meter Check

NO	Mode	Input signal & test tape	Adjustment location	Measuring location	Adjustment value	Remarks
1.	REC PAUSE	Apply a 315 Hz/-10 dBv (316 mV) signal to the Line Input terminals.	Rec Level control	TP. 1 (Lch) TP. 2 (Rch	Check that the level meters "0 dB" light up within−15.2 dBv ±2 dB of the signal output level.	

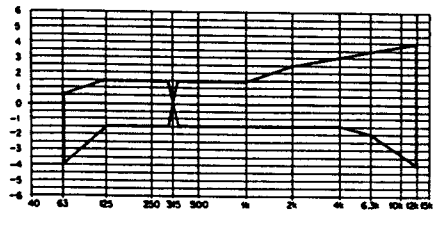
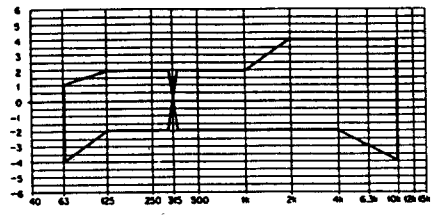
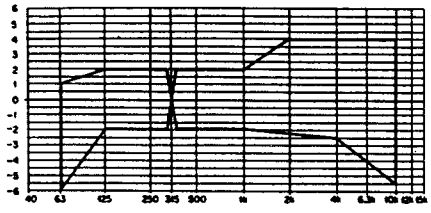
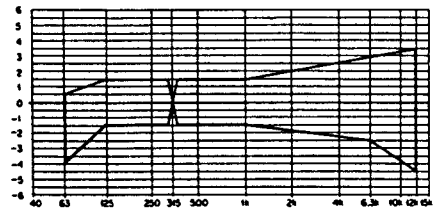
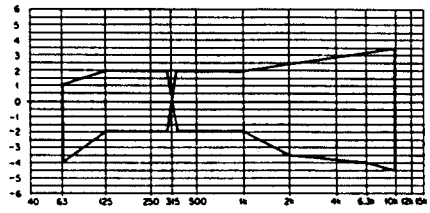
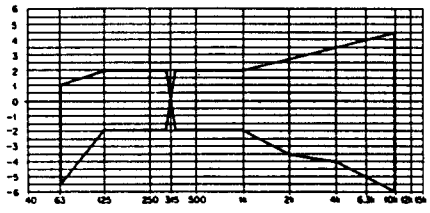
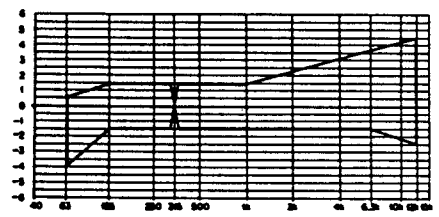
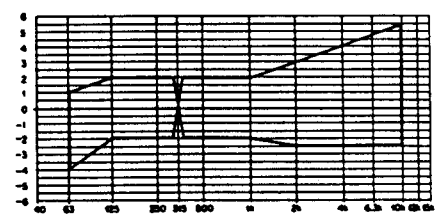
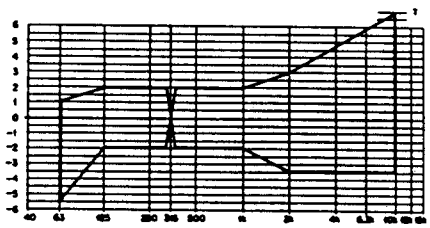
Test Tape : STD-608A		
TAPE SELECTOR : NORM		
DOLBY NR : OFF	DOLBY NR : B-TYPE ON	DOLBY NR : C-TYPE ON
		
Test Tape : STD-620		
TAPE SELECTOR : CrO_2		
DOLBY NR : OFF	DOLBY NR : B-TYPE ON	DOLBY NR : C-TYPE ON
		
Test Tape : STD-610		
TAPE SELECTOR : METAL		
DOLBY NR : OFF	DOLBY NR : B-TYPE ON	DOLBY NR : C-TYPE ON
		

Fig. 9-9 Allowable recording and playback frequency response zone

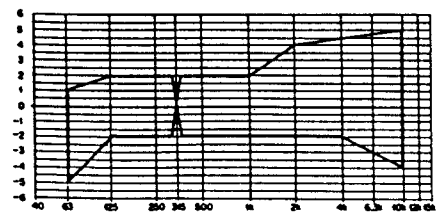
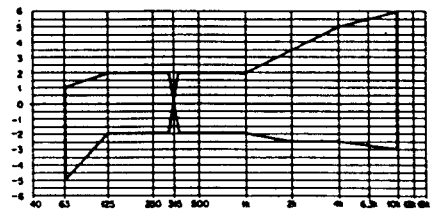
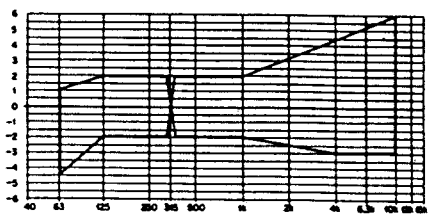
Test Tape : STD-608A	Test Tape : STD-620	Test Tape : STD-610
TAPE SELECTOR : NORM	TAPE SELECTOR : CrO_2	TAPE SELECTOR : METAL
DOLBY NR : OFF	DOLBY NR : OFF	DOLBY NR : OFF
		

Fig.9-10 Copy mode allowable recording and playback frequency response zone

10. FOR HEM TYPE

10.1 MECHANISM UNIT AND PARTS LIST

NOTES :

- Parts without part number cannot be supplied.
- The ⚠ mark found on some component parts indicates the impotance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- For your parts Stock Control, the fast moving items are indicated with the marks ★★ and ★.
  ★★ GENERALLY MOVES FASTER THAN ★.
  This classification shall be adjusted by each distributor because it depends on .model number, temperature, humidity, etc.
- Parts marked by "⊙" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

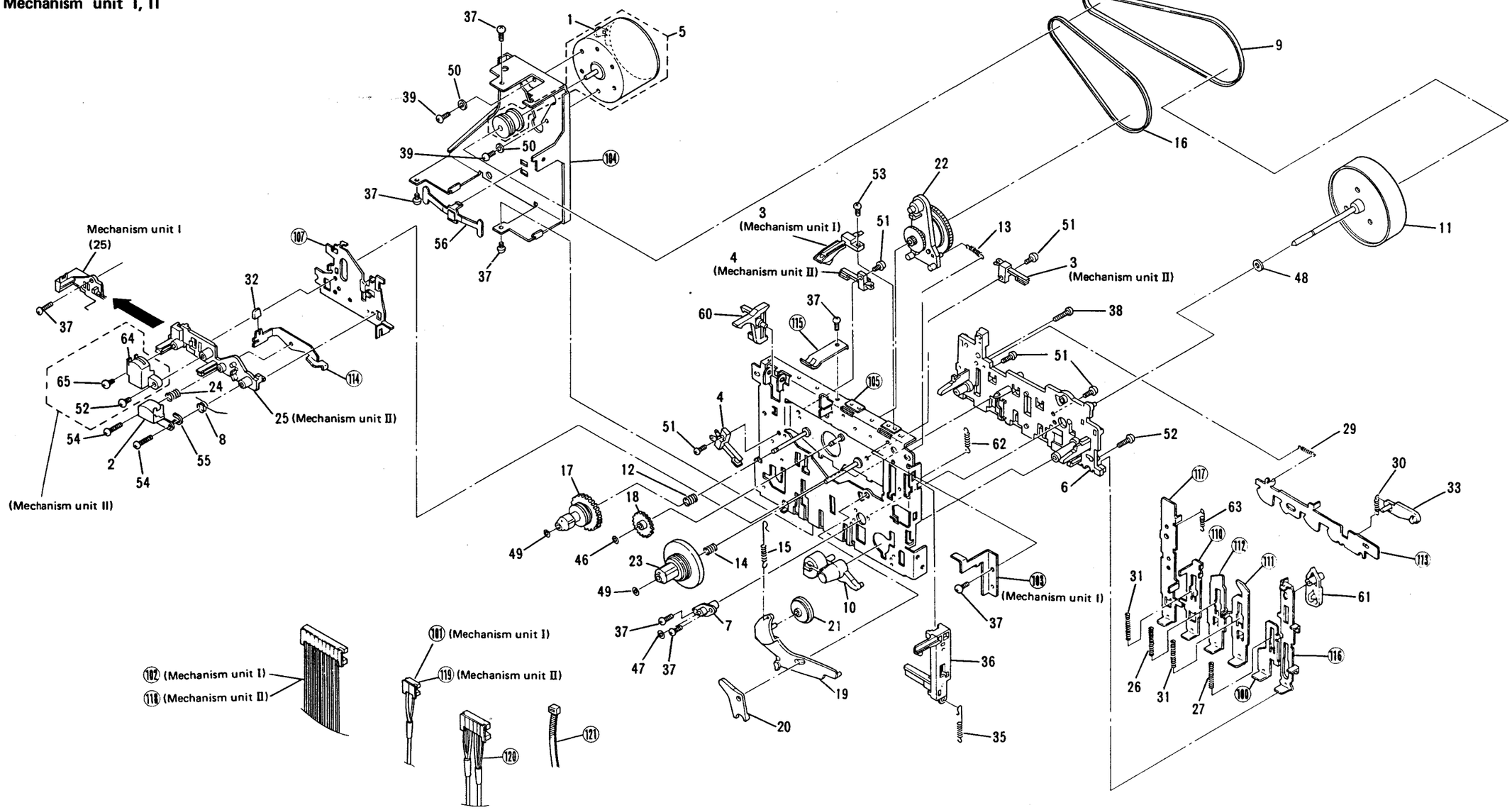
Part List of HEM Type (Mechanism Unit I, II)

Mark	No.	Part No.	Description
	1	CCDSL101J50	Ceramic Capacitor
★★	2	RPB1006	RP Head
★★	3	RSN1013	Leaf Switch
		(Mechanism Unit I)	
		RSN1015	Leaf Switch
		(Mechanism Unit II)	
★★	4	RSN1014	Leaf Switch
★★	5	RXM1022	Motor assembly (J)
	6	RNK1353	Lever Base
	7	RXA1201	Housing assembly
	8	RBH1164	P Roller Spring
★★	9	REB1064	Drive Belt
	10	RXA1200	P Roller assembly
	11	RXA1203	Flywheel (D)
	12	RBH1170	Back Tension Spring
	13	RBH1177	FR Arm Spring (B)
	14	RBH1173	Back Tension Spring (B)
	15	RBH1176	Idler Spring (A)
★★	16	REB1063	Clutch Belt (D)
	17	RNK1355	S Reel
	18	RNK1356	FF Gear
	19	RNK1371	Idler Arm (P)
	20	RNK1372	Arm Bush
	21	RXA1211	Idler assembly
	22	RXA1212	FR Pulley assembly (B)
	23	RXA1213	T Reel assembly (P)
	24	RBH1159	Head Spring
	25	RNK1351	Head Base (Mechanism unit I)
		RNK1359	Head Base (B) (Mechanism unit II)
	26	RBH1165	Lever Spring
	27	RBH1166	Lever Spring (B)
	28	.....	.....
	29	RBH1169	Lock Cam Spring
	30	RBH1172	Auto Arm Spring
	31	RBH1174	Lever Spring (C)
	32	RNK1350	Sensor Cap
	33	RNK1352	Auto Arm
	34	.....	.....
	35	RBH1168	Eject Lever Spring
	36	RNK1326	Eject Lever (P)
	37	PCZ20P040FMC	Tap Tite Screw
	38	PCZ20P060FMC	Tap Tite Screw
	39	PMZ26P030FMC	Pan Screw
	40	.....	.....
	41	.....	.....
	42	.....	.....

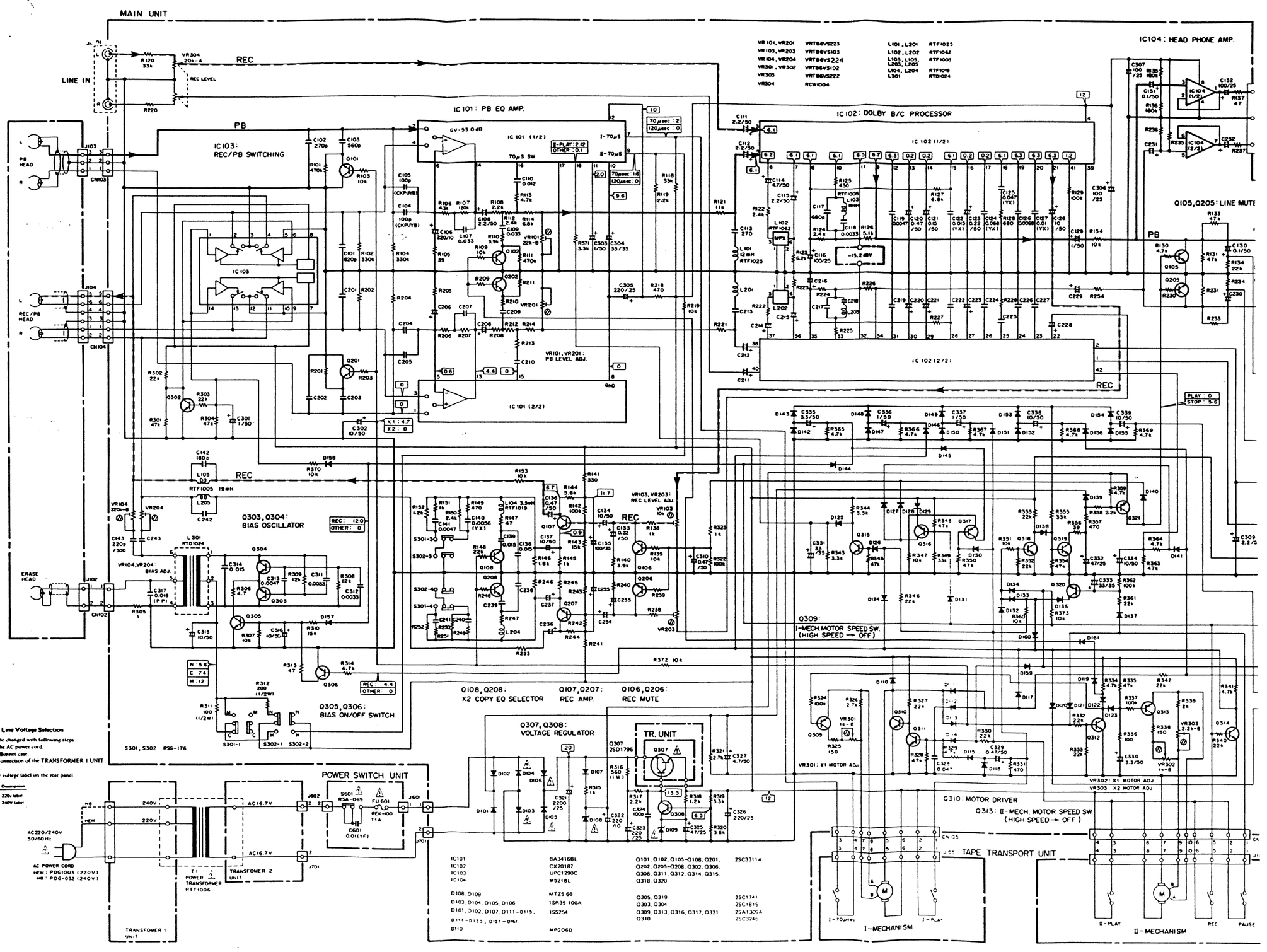
Mark	No.	Part No.	Description
	43	.....	.....
	44	.....	.....
	45	.....	.....
	46	RBF1001	Polyslider Washer
	47	RBF1022	Oil Stop Washer
	48	WA21D040D025	Polyslider Washer
	49	RBF-083	Polyslider Washer
	50	RBE1004	Tooted Lock Washer
	51	RBA1011	Tap Tite Screw
	52	RBA1059	Tap Tite Screw
	53	RBA1012	Tap Tite Screw (Mechanism unit I)
	54	RBA1060	Bind Tap Tite Screw
	55	RBE1007	Head Spacer
	56	RNK1255	Capstan Spacer
	57	.....	.....
	58	.....	.....
	59	.....	.....
	60	RNK1360	REC Sensor (Mechanism unit II)
	61	RNK1354	Pause Cam (A) (Mechanism unit II)
	62	RBH1167	Pause Spring (P) (Mechanism unit II)
	63	RBH1175	REC Lever Spring (B) (Mechanism unit II)
★★	64	RPB1002	E Head (Mechanism unit II)
	65	PBZ20P080FMC	Tapping Screw (Mechanism unit II)
	100		Stop Lever (F)
	101		3P Head Wire assembly (Mechanism unit I)
	102		8P Head Wire assembly (Mechanism unit I)
	103		SW Guard (Mechanism unit I)
	104		Motor Bracket (D)
	105		Chassis assembly (P) (Mechanism unit II)
	106		.....
	107		Head Chassis (P) (Mechanism unit II)
	108		.....
	109		.....
	110		Play Lever (F)
	111		FF Lever (F)
	112		REW Lever (F)
	113		Lock Cam
	114		Sensor Lever
	115		Pack Spring
	116		Pause Lever (P) (Mechanism unit II)
	117		REC Lever (F) (Mechanism unit II)

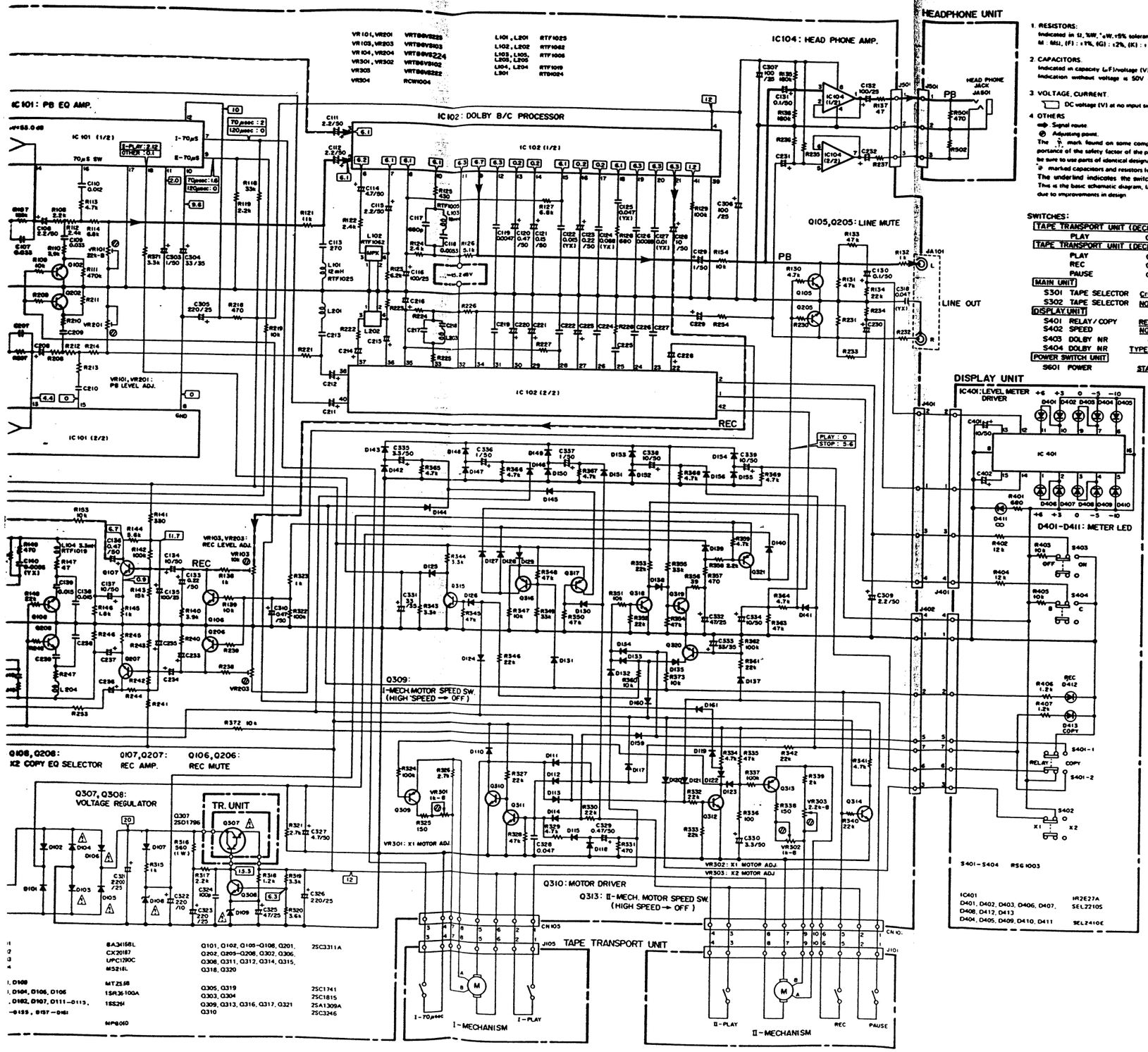
Mark	No.	Part No.	Description
	118		10P Wire assembly (Mechanism unit II)
	119		2P Head Wire assembly (Mechanism unit II)
	120		6P Head Wire assembly (Mechanism unit II)
	121		Binder

Mechanism unit I, II



10.2 SCHEMATIC DIAGRAM





1 RESISTORS:
Indicated in Ω, ¼W, ±5% tolerance unless otherwise noted k : kΩ, M : MΩ, (F) : ±1%, (G) : ±2%, (K) : ±10%, (M) : ±20% tolerance

2 CAPACITORS
Indicated in capacity (μF)/voltage (V) unless otherwise noted p : pF
Indication without voltage is 50V except electrolytic capacitor.

3 VOLTAGE, CURRENT
DC voltage (V) at no input signal

4 OTHERS
Signal route
Adjusting point.
The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
* marked capacitors and resistors have parts numbers
The underlined indicates the switch position.
This is the basic schematic diagram, but the actual circuit may vary due to improvements in design

SWITCHES:

TAPE TRANSPORT UNIT (DECK I)
PLAY ON — OFF

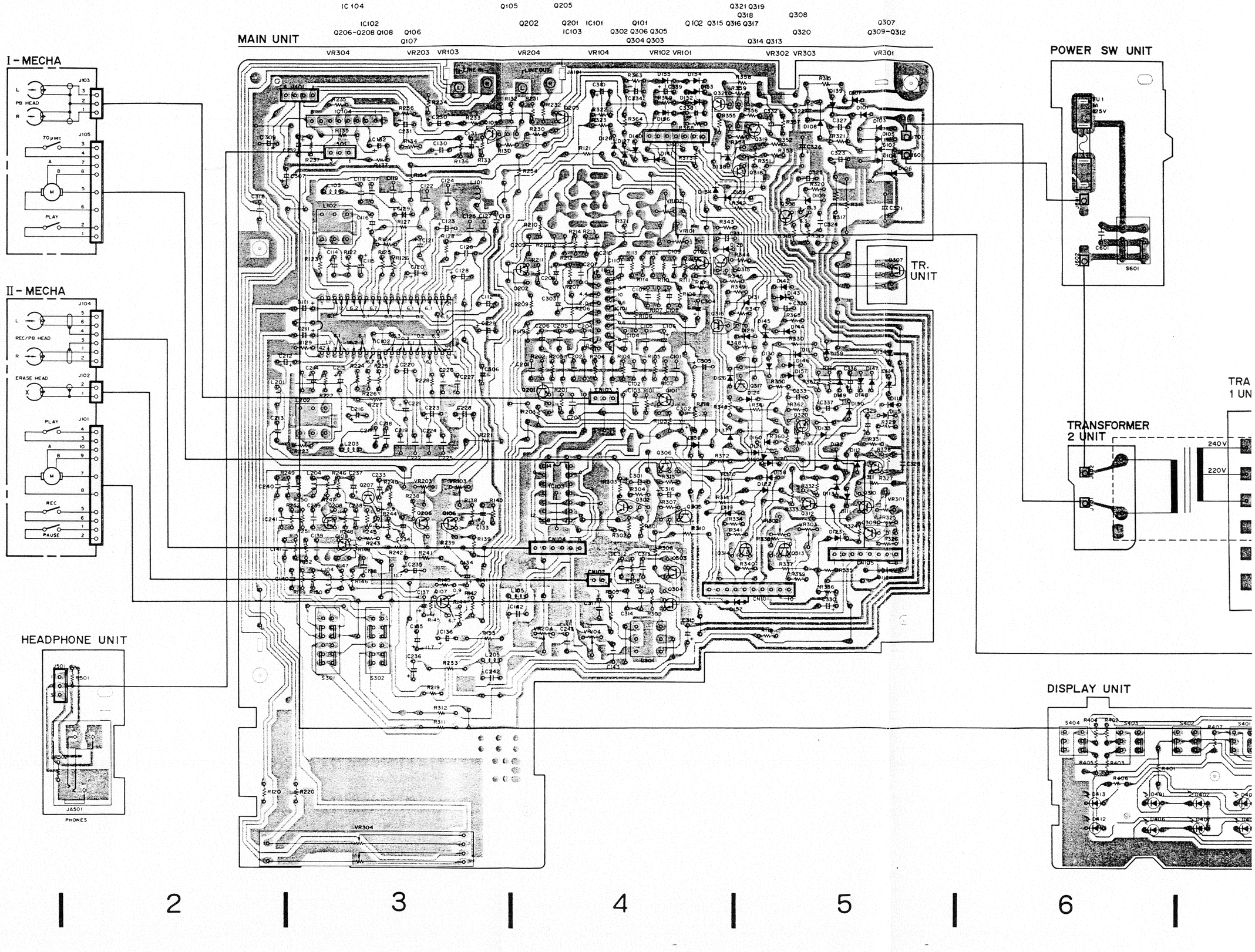
TAPE TRANSPORT UNIT (DECK II)
PLAY ON — OFF
REC ON — OFF
PAUSE ON — OFF

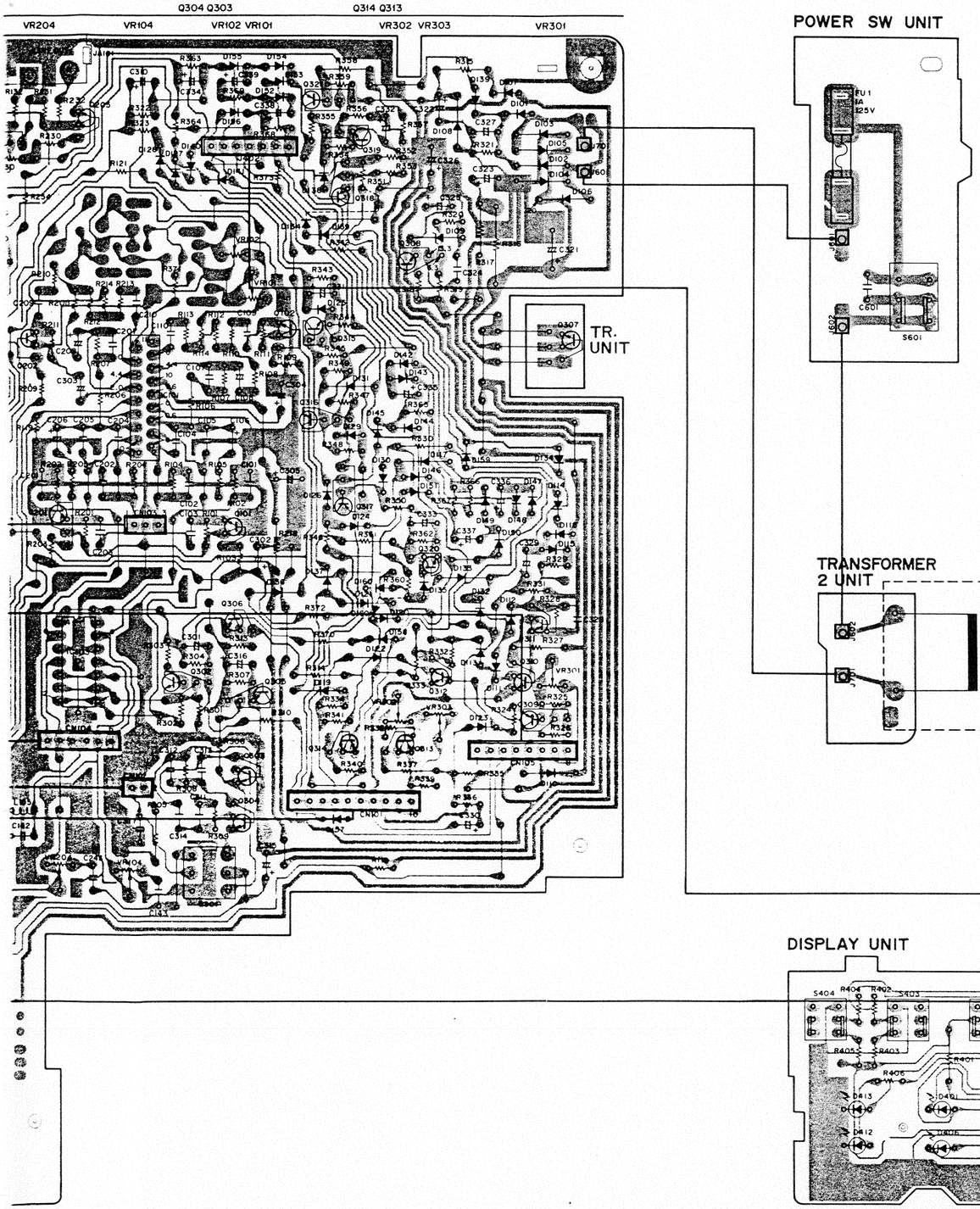
MAIN UNIT
S301 TAPE SELECTOR CrO2 — METAL
S302 TAPE SELECTOR NORM — HIGH

DISPLAY UNIT
S401 RELAY / COPY RELAY I ▶◀ II — COPY
S402 SPEED NORM — HIGH
S403 DOLBY NR ON — OFF
S404 DOLBY NR TYPE B — TYPE C

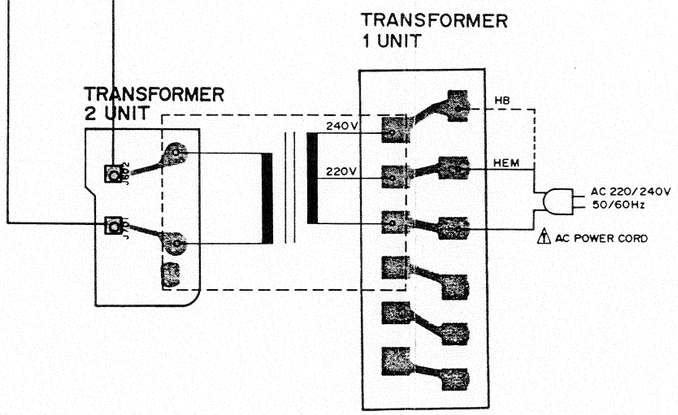
POWER SWITCH UNIT
S601 POWER STANDBY — ON

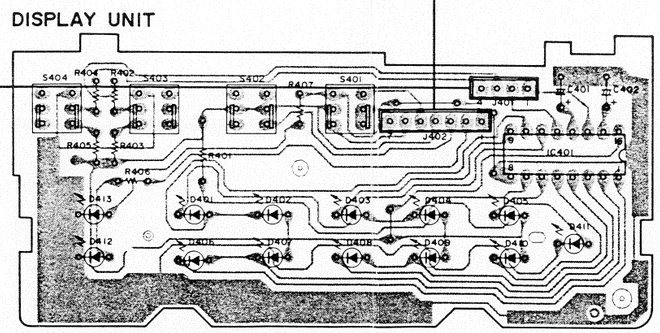
10.3 P. C. BOARDS CONNECTION DIAGRAM




VR204
VR104
VR102 VR101
VR302 VR303
VR301
TR. UNIT

POWER SW UNIT
FU1
4A
125V
S601


TRANSFORMER
1 UNIT
TRANSFORMER
2 UNIT
240V
220V
HB
HEM
AC 220/240V
50/60Hz
AC POWER CORD


DISPLAY UNIT

10.4 ELECTRICAL PARTS LIST OF CT-W300/HEM type.

NOTES :

- Parts without part number cannot be supplied.
- Parts marked by "⊙" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable
- The ⚠ mark found on some component parts indicates the impotance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- For your parts Stock Control, the fast moving items are indicated with the marks ★★ and ★.
  ★★ GENERALLY MOVES FASTER THAN ★.
  This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.
- When ordering resistors, first convert resistance values into code form as shown in the following examples.
  Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown : J=5%, and K=10%).
  560 Ω 56×10¹ 561 ····· RD1/4PS 5 6 1 J
  47k Ω 47×10³ 473 ····· RD1/4PS 4 7 3 J
  0.5 Ω 0R5 ····· RN2H 0 R 5 K
  1 Ω 010 ····· RS1P 0 1 0 K
  Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).
  5.62k Ω 562×10¹ 5621 ····· RN1/4SR 5 6 2 1 F

Miscellaneous Parts

P. C. BOARD ASSEMBLIES

Mark	Symbol & Description	Part No.
	Main unit	
	Display unit	
	Transistor unit	
	Power switch unit	
	Transformer 1unit	
	Transformer 2unit	
	Headphone unit	

OTHERS

Mark	Symbol & Description		Part No.
⚠ ★	T1	Power transformer (220/240V)	RTT1006
⚠★★	FU1	Fuse (T1A/125V, 20mm)	REK-100
⚠		AC Power cord	RDG1003
⚠		Strain relief	CM-22B

Main Unit

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
★★	IC101	BA3416BL
★★	IC102	CX20187
★★	IC103	UPC1290C
★★	IC104	M5218L
★★	Q309, Q313, Q316, Q317, Q321	2SA1309A
★★	Q305, Q319	2SC1741
★★	Q303, Q304	2SC1815

Mark	Symbol & Description	Part No
★★	Q310	2SC324[illegible]
★★	Q101, Q102, Q105-Q108, Q201, Q202, Q205-Q208, Q302, Q306, Q308, Q311, Q312, Q314, Q315, Q318, Q320	2SC33[illegible]A
⚠ ★	D108, D109	MTZ5.6[illegible]
⚠ ★	D103, D104, D105, D106	1SR35-1[illegible]A
★	D101, D102, D107, D111-D115, D117-D135, D137-D161	1SS254
★	D110	MPG06[illegible]

SWITCHES

Mark	Symbol & Description	Part No
★★	S301, S302 Push switch (TAPE SELECTOR)	RSG[illegible]

COILS AND FILTERS

Mark	Symbol & Description	Part No
	L301 Oscillator coil	RTD10[illegible]
	L103, L203, L105, L205 coil (19mH)	RTF10[illegible]
	L102, L202 MPX Filter	RTF10[illegible]
	L104, L204 Coil (3.3mH)	RTF101[illegible]
	L101, L201 Coil (12mH)	RTF1025

CAPACITORS

Mark	Symbol & Description	Part No.
	C143, C243	CCCSL221K500
	C130, C131, C230, C231	CEASR10M50
	C121, C221	CEASR15M50
	C123, C133, C223, C233	CEASR22M50
	C120, C136, C220, C236, C310, C329	CEASR47M50
	C129, C229, C301, C303, C336, C337	CEAS010M50
	C128, C134, C137, C228, C234, C237, C302, C315, C316, C334 C338, C339	CEAS100M50
	C116, C132, C135, C216, C232, C235, C306, C307	CEAS101M25
	C108, C111, C112, C115, C208, C211, C212, C215, C309	CEAS2R2M50
	C106, C206, C322	CEAS221M10
	C305, C323, C326	CEAS221M25
	C321	CEAS222M25
	C330, C335	CEAS3R3M50
	C304, C331, C333	CEAS330M35
	C114, C214, C327	CEAS4R7M50
	C325, C332	CEAS470M25
	C127, C227	CGCYX103K25
	C122, C222	CGCYX153K25
	C125, C225, C318, C328	CGCYX473K25
	C140, C240	CGCYX562K25
	C124, C224	CGCYX683K25
	C104, C105, C204, C205, C324	CKPUYB101K50
	C142, C242	CKPUYB181K50
	C102, C113, C202, C213	CKPUYB271K50
	C103, C203	CKPUYB561K50
	C117, C217	CKPUYB681K50
	C101, C201	CKPUYB821K50
	C110, C210	CFTXA123J50
	C138, C139, C238, C239, C314	CFTXA153J50
	C118, C218, C311, C312	CFTXA332J50
	C107, C109, C207, C209	CFTXA333J50
	C119, C141, C219, C241, C313	CFTXA472J50
	C126, C226	CFTXA682J50
	C317	CQPA183J100

RESISTORS

Mark	Symbol & Description	Part No.
	R306	RFA¼L4R7J
	R316	RS1LF561J
★	VR301, VR302 Semi-fixed (×1 MOTOR)	VRTB6VS102
★	VR304, Slide control (20k-A) (REC LEVEL)	RCW1004
★	VR103, VR203 Semi-fixed (REC LEVEL)	VRTB6VS103
★	VR104, VR204 Semi-fixed (REC BIAS)	VRTB6VS224
★	VR303 Semi-fixed (×2 MOTOR)	VRTB6VS222
★	VR101, VR201 Semi-fixed (PB LEVEL)	VRTB6VS223
	R311, R312, R315	RD½PMF□□□J
	R333	RD¼LF223J
	R106, R121, R127, R135, R141, R153, R154, R206, R218, R221, R227, R239, R241, R253, R254, R305, R310, R314, R317, R327, R330, R337, R342, R358, R361, R370	RD¼PM□□□J
	Other resistors	RD⅙PM□□□J

OTHERS

Mark	Symbol & Description	Part No.
	JA101 Pin jack 4P (LINE IN/OUT)	RKB1001

Display Unit

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
★★	IC401	IR2E27A
★	D401–D403, D406–D408, D412, D413	SEL2210S
★	D404, D405, D409, C410, C411	SEL2410E

SWITCHES

Mark	Symbol & Description	Part No.
★★	S401–S404 Push switch (MODE, SPEED DOLBY NR ON/OFF, B/C)	RSG1003

CAPACITORS

Mark	Symbol & Description	Part No.
	C401, C402	CEAS100M50

RESISTORS

Mark	Symbol & Description	Part No.
	R401	RD¼PM□□□J
	Other resistors	RD⅙PM□□□J

Transistor Unit

SEMICONDUCTOR

Mark	Symbol & Description	Part No.
⚠★★	Q307	2SD1796

Power Switch Unit

SWITCH

Mark	Symbol & Description	Part No.
⚠★★	S601 Push switch (POWER)	RSA−069

CAPACITORS

Mark	Symbol & Description	Part No.
	C601	CKCYF103Z50

Transformer 1 unit

There is no supply part in this unit.

Transformer 2 unit

There is no supply part in this unit.

Headphone Unit

RESISTOR

Mark	Symbol & Description	Part No.
	All resistors	RD⅙PM□□□J

OTHERS

Mark	Symbol & Description	Part No.
	JA501	RKN1002

11. FOR HP, SD, HB AND CT-W300-S/HEM TYPES

CONTRAST OF MISCELLANEOUS PARTS

NOTES :

- Parts without part number cannot be supplied.
- The ⚠ mark found on some component parts indicates the impotance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- For your parts Stock Control, the fast moving items are indicated with the marks ★★ and ★.
  ★★ GENERALLY MOVES FASTER THAN ★.
  This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.
- Parts marked by "⊙" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

The CT-W300/HP and SD types are the same as the CT-W300/KUC type with the exception of the following sections.

Mark	Symbol & Description	Part No.			Remarks
		CT-W300/KUC type	CT-W300/HP type	CT-W300/SD type	
	Main unit	Non supply	Non supply	Non supply	
⚠	Strain relief	CM-22	CM-22B	CM-22B	
⚠	AC power cord	RDG-048	RDG-029	PDG1013	
⚠★★	FU601 Fuse (1A/125V)	REK-080	.....	REK-080	
⚠★★	FU601 Fuse (T1A/250V)	.....	REK-100	.....	
⚠ ★	T1 Power transformer (120V)	RTT1005	.....	.....	
⚠ ★	T1 Power transformer (220/240V)	.....	RTT1006	.....	
⚠ ★	T1 Power transformer (110/120-127/220/240V)	.....	.....	RTT1007	
⚠★★	S1 Voltage selector switch (110/120-127/220/240V)	.....	.....	PSB1002	
	Operating instructions (Spanish)	.....	.....	RRD1029	

MAIN UNIT

The main unit (for SD and HP types) is the same as the main unit (for KUC type) with the exception of the following sections.

Mark	Symbol & Description	Part No.		Remarks
		KUC type	SD and HP types	
	R306	RD¼PM4R7J	RFA¼L4R7J	

The CT−W300/HP and CT−W300−S/HEM types are the same as the CT−W300 /HEM type with the exception of the following sections.

Mark	Symbol & Description	Part No.			Remarks
		CT−W300/ HEM type	CT−W300/ HB type	CT−W300−S /HEM type	
⚠	AC power cord	PDG1003	PDG−032	PDG1003	
	Knob (POWER)	RAC1068	RAC1068	RAC1278	
	Knob (TAPE)	RAC1075	RAC1075	RAC1279	
	Knob (MODE)	RAC1076	RAC1076	RAC1280	
	Knob (REC LEVEL)	RAC1080	RAC1080	RAC1281	
	Button (STOP)	RAC1264	RAC1264	RAC1282	
	Button (REC)	RAC1265	RAC1265	RAC1283	
	Button (REW)	RAC1266	RAC1266	RAC1284	
	Button (FF)	RAC1267	RAC1267	RAC1285	
	Button (PAUSE)	RAC1268	RAC1268	RAC1286	
	Button (PLAY)	RAC1269	RAC1269	RAC1287	
	Display panel	RAH1286	RAH1286	RAH1302	
	Meter panel	RAH1289	RAH1289	RAH1289	
	Badge (S)	RAH1295	RAH1295	RAH1300	
	Function panel	RAH1299	RAH1299	RAH1305	
	Door panel (L)	RAH1310	RAH1310	RAH1303	
	Door panel (R)	RAH1311	RAH1311	RAH1304	
	Door pocket	RNK1058	RNK1058	RNK1346	
	Front panel assembly	RXX1085	RXX1085	RXX1086	
	Operating instructions (English)	RRB1025	RRB1025	.....	
	Operating instructions (French, German, Italian, Dutch, Swedish, Spanish, Portuguese)	RRD1035	.....	.....	
	Operating instructions (German)	.....	.....	RRD1045	
	Bonnet	RNA1031	RNA1031	RXX1090	
	Packing case	RHG1070	RHG1070	RHG1071	